



Fixed access market reviews: Openreach quality of service and approach to setting LLU and WLR Charge Controls

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1 Summary

- 1.1 This document sets out TalkTalk Group's (TTG) response to Ofcom's further consultation on the FAMR and LLU/WLR Charge Control (published on 19th December 2013) which made revised proposals for the LLU/WLR charge control and also made additional proposals for the minimum service standard regime.
- 1.2 Ofcom's most important proposals are in respect of LLU/WLR charges and particularly the MPF rental price. The prices that Ofcom sets in this upcoming charge control will be critical and TalkTalk welcomes the price adjustment to ensure a reasonably stable MPF price. [X]
- [X]
 - [X]
 - [X]
- 1.3 [X]
- 1.4 [X]
- 1.5 [X]
- 1.6 Ofcom's conclusions on the MPF price will also have a large impact on future investment. Over the last two years TalkTalk has made substantial investments (a current run-rate of over £350m per annum) in TV services (primarily set-top boxes), further innovation around the core dual play offering, and in unbundling exchanges. [X] If Ofcom were to allow a sharper increase in the MPF price (after 3 years of falling MPF prices) over and above what is being proposed, it would undermine regulatory stability and deter future investments by downstream players as the perceived investment risk would increase. This in turn would reinforce BT's dominant position, and raise its profitability. Increased MPF prices would also reduce margins and reduce competitors' scope for investment and innovation. Conversely, temporarily lower MPF prices have less, if any, effect on Openreach's incentives to invest since high fixed costs will ensure that returns on marginal investment remain above the cost of capital and the overall returns to Openreach across MPF and WLR will be unchanged.
- 1.7 Therefore, in light of the negative implications of MPF price rises, we strongly support Ofcom's proposals to maintain the price difference between MPF and WLR + SMPF above the incremental cost difference to ensure stable MPF prices – we refer to this as the 'price adjustment'.¹ Though Ofcom's price adjustment has the potential to result in some temporary static inefficiencies it will deliver substantial dynamic efficiency benefits, leading to net consumer welfare gains.

¹ Ofcom estimates the MPF vs WLR+SMPF incremental cost difference at £0 to £4 and have set the price difference at £10.

1.8 Though we regard Ofcom's proposed price adjustment as fully justified, we consider that Ofcom could alternatively achieve the key objective of a stable (or reduced) MPF price through a combination of other changes which reduce costs and a smaller (or zero) price adjustment. [38] We are not saying that Ofcom needs to maintain permanently the price difference above the cost difference but that the price difference needs to be gradually closed in a steady and predictable manner. This is not about Ofcom setting artificially low prices as BT has claimed but about Ofcom being a responsible regulator. The other changes that we consider are warranted are described below.

1.9 First, there are a number of reasons as to why the costs of MPF (and WLR) are currently overestimated in Ofcom's proposals. The key ones are:

- The Openreach-copper asset beta is too high and, as set out at section 4.6 of TalkTalk's October 2013 submission, should be circa 0.40 rather than the 0.60 currently assumed. Ofcom's 0.60 assumption has been based on the results of disaggregating the BT Group asset beta. This is an increasingly unreliable method as other parts of BT grow in size and become increasingly risky; BT's move into sport and fibre has exacerbated this process. Further, Ofcom has used an inappropriate weighting assumption – if this were corrected it would on its own result in an Openreach-copper asset beta of 0.40. 0.40 is also consistent with relevant benchmarks for asset betas (UK utilities 0.28 to 0.33 and UK telcos 0.52 to 0.59)².
- Ofcom's cost model (and the proposed MPF/WLR prices) does not reflect the substantial residual value of the copper network – the potential scrap income is around £1bn. The orthodox accounting approach where there is a residual value (and the approach that BT states it adopts in its RFS but in fact does not) is to recognise the residual value through reduced depreciation charges. Adopting a reduced depreciation approach will significantly improve economic efficiency as the price charged for the copper network will be more cost-reflective. Adjusting prices at the (future) point in time when the income from copper recovery is paid to BT may not be feasible or legal, results in regulatory uncertainty, and would anyway result in material economic inefficiencies.
- The allocation of central costs (such as HR, procurement, research) is based on the allocation rules BT uses in its RFS. These allocation rules use a mix of pay and weighted assets to allocate costs, and are inconsistent with the principle of cost causality – for instance, procurement costs are caused by external opex and capex (not pay or assets). Pay and assets are the two metrics that allocate the greatest amount to Openreach and therefore to regulated products. Thus, as well as being an unjustified deviation from the cost causality principle, BT's use of pay and assets to allocate costs is a clear gaming tactic to exaggerate the costs of LLU and WLR.
- Ofcom bases the cost of MPF on the assumption that all MPF lines are double jumpered. However, if Openreach had developed single jumpered MPF

² The case for a lower Openreach-copper asset beta is included in TalkTalk's submission in response to the July 2013 Consultation

product (SJ-MPF) in 2007 or 2008 then it would have been lower cost (i.e. more efficient) to deploy MPF lines based on SJ-MPF. We consider that Ofcom should derive the costs used to set MPF prices based on this efficient cost since Openreach knew or could have reasonably known in 2007/08 that SJ-MPF was lower cost. Such an approach would be consistent with Ofcom setting NCC charges based on BT using NGN technology when in fact it does not do so. If this correction is not made then Ofcom will continue to reward BT for not acting efficiently and therefore penalise competitors and customers for BT's monopolistic behaviour.

- There are a number of changes that Ofcom could make to its assumptions around fault repair costs:
 - There is clear and strong evidence that there has been a 50% increase in faults since 2009 which implies that the 2012 fault level is inefficiently high and should be adjusted downwards. Ofcom's approach and conclusions allows BT the 'benefit of the doubt' when the lack of reliable data on faults is of BT's own making;
 - Even if Ofcom assumes that the 2012 fault rate is efficient it should in any case adjust this rate downwards to reflect that 2012 was an 'extreme' rainfall year. This is because Ofcom's projections for 2016/17 should be based on expected average future rainfall;
 - ELF fault repair costs should be recovered from provisioning, rather than rentals, since this is a more cost causal approach;
 - ILF costs for MPF should be lower than for WLR+SMPF since (according to CSMG) the fault rate for MPF has been consistently lower for the last 2 years.

1.10 Second, we think that the incremental cost difference is larger than the £0 to £4 estimated by Ofcom and that Ofcom should in any case set the price difference above the cost difference.

- We consider the incremental cost difference between MPF and WLR+SMPF to be £5 to £6 rather than the £0 to £4 estimated by Ofcom – this reflects: the need to equalise service assurance costs; a higher WLR line card incremental cost; various evidence that suggests the incremental TAM cost is lower; lower frame (opex) costs resulting from additional jumpers; and, that the MPF in-life fault rate is lower than WLR+SMPF.
- Setting the price difference above the cost difference will (in addition to the benefits of regulatory stability discussed above) encourage deeper downstream competition which delivers lower upstream costs, more pricing innovation, increased investment and higher levels of product/technology innovation.

1.11 The other points we make in this submission are:

- We agree with setting the minimum service standards based on the (contractual) SLAs, particularly given that setting higher minimum service

standards will increase wholesale (and thus retail) prices which consumers can ill-afford.

- Openreach's DES model's estimate of the cost of higher care levels and higher performance are unreliable and exaggerate the impact.
- Openreach is gaming the use of MBORCs – in particular it is declaring provisioning MBORCs more frequently even though in the past it has stated (to TalkTalk and Ofcom) that it would only declare these *in extremis*.
- We believe that the case for price regulation of enhanced services is compelling and the arguments that have been advanced against this are insufficient to justify continuing the current approach that has allowed prices to be set at 4 to 10 times cost.
- We agree with Ofcom's amendments to the ancillary services baskets. We think a reporting obligation would aid the detection of possible gaming.

1.12 Our submission is laid out as follows.

- Section 2, as a prelude, provides TalkTalk's views on the importance of regulatory consistency when setting the MPF rental price.
- Section 3 then sets out TalkTalk's perspective on what elements should be included in base year costs.
- Section 4 briefly covers our analysis of fault rates and the costs of dealing with faults.
- Section 5 details TalkTalk's assessment of what the incremental cost difference between WLR and MPF is likely to be.
- Section 6 provides our views on the appropriate price differential between WLR and MPF rentals.
- Section 7 deals with ancillary services regulation, and Section 8 covers enhanced services.
- Section 9 then picks up miscellaneous charge control points not dealt with in the preceding sections.
- Section 10, finally, covers the appropriate way to set and charge for Openreach's quality of service.

2 Regulatory consistency and stability

2.1 TalkTalk believes that a suitable level of regulatory consistency and stability is one of the key principles which should underpin Ofcom's regulatory decision making particularly in setting key wholesale charges. While Ofcom clearly has to trade off different factors when reaching its regulatory decisions, we believe that due weight should be given to consistency, both between regulatory reviews, and within a given regulatory review. We consider that it will be particularly important to avoid regulatory changes which both lead to a reduction in regulatory predictability, and

which do not lead to direct consumer benefits through increased competition in downstream markets.

- 2.2 As Ofcom recently highlighted in its Cost and Value Report, the success of the UK telecoms industry over the past decade has been driven by competitive investment which has driven down prices – the average price of a broadband package decreased by 48% between 2004 and 2012.³ Ofcom is rightly conscious that the future prospects of the UK telecoms industry depend on fostering competitive investment (both upstream and downstream) and an environment that encourages low prices. As we describe below, regulatory stability is key to delivering both of these goals.
- 2.3 Regulatory stability is one of the factors which creates a positive climate for investment. All firms in the UK telecoms sector engage in significant levels of investment in order to meet their customers’ needs and drive growth in the market. In the fixed line sector this can be in the form of fixed network assets (both in the access network and core network) and costs of customer acquisition (for all downstream communications providers). It is unrealistic to consider Openreach as the sole, or indeed main, company investing in the UK telecoms market. Openreach invests around £1.0 billion a year⁴ whereas investment in customer acquisition is probably around £1.5 billion⁵. Other companies also invest £100s millions in their own core network as well. Thus investment by operators other than Openreach is both larger and at least as important to the UK telecoms market since the downstream level is where the innovations tend to occur.
- 2.4 An example of the scale of investment undertaken can be seen by considering TalkTalk’s investment in customer acquisition. TalkTalk is currently investing at an annual rate of £350m a year in subscriber acquisition and marketing costs⁶. These costs clearly take the form of an investment– they are paid out up front, and there is no guarantee of return given the competitive market.
- 2.5 [X]
- 2.6 [X]
- 2.7 [X]
- 2.8 [X]
- [X]⁷.
 - [X]
 - [X]

³ Ofcom (2104), *Cost and Value of Communications Services in the UK*, 28th January, at page 4.

⁴ In Q3 FY14 Openreach capex was £249million. <http://www.btplc.com/News/ResultsPDF/q314-release.pdf>

⁵ There are about 30m lines in the UK and assuming 15% churn each year this means there are about 4.5m switchers each year. The SAC cost is typically £250 to £400 which gives an investment in acquiring new customers (excluding investment in retaining customers) of about £1.5bn

⁶ In the six months to the end of September 2013, TalkTalk invested £174m.

⁷ [X]

2.9 [REDACTED].⁸ [REDACTED]

2.10 TalkTalk considers that a significant MPF price increase (as would result from a reduced price differential) would be inconsistent with Ofcom's previous approach, and so would fail to promote regulatory stability without providing any offsetting benefit in terms of lower prices to consumers. Since 2011/12 MPF prices have fallen by about £2 per year and the price difference (MPF versus WLR+SMPF) was about £19. As recently as July 2013, the appropriate price differential was estimated to be £10⁹ and the MPF charge £82.54 (versus £84.26 in the current consultation). If Ofcom was to remove the price adjustment then the price difference would fall to about £2 and MPF prices would rise to about £91.

2.11 [REDACTED]

3 Base year costs

3.1 The first step in Ofcom's modelling is to assess the base year costs for the purposes of the charge control; Ofcom has used 2012/13 as the base year for this review. The key issues about this are: what costs are included in the base year costs, the asset valuation approach adopted, and the way in which costs are allocated to individual products. In this consultation Ofcom has reviewed a number of aspects of base year costs, such as whether to include BT's RFS13 changes, and the level of fault repair costs. It has also posed an open question as to what costs should be excluded. In this section we comment on a number of base year cost issues¹⁰. The fault repair costs that are included in the base year costs is discussed in section 4.

3.1 Copper recovery income

3.2 The standard approach to deriving the costs of assets (in both standard accounting practice and in setting prices for regulated products) is to depreciate them to zero across the lifetime of the asset. The cost that is used to set prices is then the depreciation charge plus a return on the capital employed (i.e. the net book value time WACC). This means that the revenue from the asset over its lifetime would equal (in NPV terms) the same as the initial capex.

3.3 However, in some cases assets have residual value at the end of their life. For instance, cars may be sold second hand or copper cable recycled to generate scrap income. We estimate that the scrap value of the copper is about £1bn¹¹. In these cases there are two broad ways in which the residual value or income can be reflected in the cost used for price-setting:

⁸ [REDACTED]

⁹ July consultation Table 6.9. The August correction resulted in higher MPF prices

¹⁰ Our comments include some points which were not explicitly raised in Ofcom's consultation

¹¹ Frontier Economics (2014), *Regulated costs for BT's copper cable*, January, at page 4. The majority of the recoverable copper will be in the e-side (rather than the d-side) and this will also have a relatively lower recovery cost since the cables are larger. It is worth noting that the d-side copper is still required for FTTC, so cannot be removed under BT's current implementation of fibre broadband.

- the depreciation of the asset during its life is unaffected and the income is recognised when it happens (which we call the ‘income approach’); or,
- the depreciation of the asset during its life is reduced so that at the end of its life its value equals the estimated income from scrap (which we will call the ‘reduced depreciation’ approach).

3.4 This reduced depreciation approach is the standard approach for the preparation of accounts. BT says it uses this approach for its statutory accounts. BT also states that it uses this approach for its regulatory financial statements (RFS).

“Depreciation is provided on tangible fixed assets on a straight-line basis from the time they are available for use, so as to write off their costs over their estimated useful lives, taking into account any expected residual values.”¹²

3.5 In the case of setting prices for regulated products the reduced depreciation approach is more economically efficient, since prices better reflect cost, and so pricing signals encourage efficient behaviour by BT and customers (i.e., it increases productive and allocative efficiency). This approach also prevents gaming by BT. We explain the benefits of the reduced depreciation approach in more detail below at §3.13. We are not aware of any reason why the reduced depreciation approach would reduce any form of efficiency.

3.6 However, in its RFS BT has not reflected the residual value of copper (through reduced depreciation) despite BT’s regulatory accounting documentation stating that it does so. This is inconsistent with BT’s accounting documents. We urge Ofcom to require BT to explain why it has deviated from its own documentation (and indeed international accounting standards) in valuing its assets.

3.7 Ofcom, in assessing the costs used to set prices, has also not reflected the residual value. Ofcom have not fully explained why it has not adopted the reduced depreciation approach. However, Ofcom has indicated possible concerns with the reduced depreciation method:

- It is better to recognise the residual value when the copper is recovered by returning the copper recovery income to customers when it occurs¹³;
- BT is not currently recovering copper from its network.
- Ofcom has adopted an anchor based pricing approach which means that Ofcom models the cost of BT’s network on the basis of hypothetical steady state all copper network.

3.8 We do not think that these represent sound reasons (individually or collectively) for not using a reduced depreciation approach. We explain why below.

¹² BT Current Cost Accounting Detailed Valuation Methodology 31 July 2013, Section 1.10

¹³ We understand that it is not being argued that the residual value should not be returned to customers. This would be a non-tenable argument – aside of the inefficiencies resulting from MPF/WLR prices not reflecting cost it would also result in BT over-recovering its costs

3.1.1 Inefficient to return income when recovery occurs

- 3.9 Returning the scrap income to customers when the copper is recovered (i.e. the income approach) is economically inefficient for several reasons.
- 3.10 First, it may not be possible to return the money at the time the copper is recovered:
- MPF/WLR may no longer exist since once the e-side copper is recovered these products can no longer operate. Therefore, another regulated wholesale product (say GEA) would need to be found to return the income to customers;
 - There may be no regulated products whose prices can be adjusted since regulation may no longer exist when the copper is recovered or the scope of regulation does not include setting charge controls;
 - Returning the income to customers will mean that the prices of GEA (say) would no longer reflect forward looking costs and thus Ofcom might not be able to reflect the income in products' prices.
- 3.11 In this respect it is notable that in the 2012 LLU Charge Control appeal BT argued (and the CC agreed) that the copper recovered from the MUCJ network which is separate from the access network should not be attributed as a negative cost to MPF/WLR since, to do so, would be *"at odds with the principle of cost causation which Ofcom had sought to apply"*¹⁴.
- 3.12 Second, even if the income were able to be returned at recovery through a reduction in the price of a regulated product, to do so will create distortions since the price of that regulated product (say GEA) would then not reflect forward looking costs¹⁵. Furthermore, there will be a temporal mismatch between future customers (who will enjoy the repayment) and today's customers (who have overpaid due to Ofcom's choice of approach) meaning that there will effectively be subsidies between different groups of customers.
- 3.13 Third, from an economic efficiency perspective the income approach is inferior to a reduced depreciation approach since MPF/WLR prices will not be cost-reflective. This will have a range of harmful effects:
- it will increase allocative inefficiency as retail voice/broadband prices will be higher than cost and so demand will be suppressed, reducing consumer welfare;
 - it will cause productive inefficiency as customers will inefficiently favour cable or mobile over MPF/WLR based products;
 - it will lead to competitive distortions between BT Retail (who don't pay MPF/WLR wholesale charges) and CPs using MPF/WLR, as well as between Virgin Media and CPs using MPF/WLR;

¹⁴ Cases 1192/3/3/12 and 1193/3/3/12 CC Determination §4.57

¹⁵ Particularly if the customer base is small.

- it will distort the timing of recovery since the cost/price for copper based access technologies will not reflect the opportunity cost of delaying recovery¹⁶;
- BT will not have an incentive to maximise recovery income since it knows that the income it receives will be passed on to customers.

3.14 Fourth, [X]

3.15 Fifth, an income approach creates regulatory uncertainty, since Ofcom will be unable today to commit to returning the income in the future since to do so would fetter its discretion. Therefore, even if today Ofcom made a statement that it would return the income in future such a statement could not be relied upon. Ofcom has rightly emphasised the need for regulatory certainty in setting prices and we concur strongly with this view.

3.1.2 BT's behaviour and anchor based pricing do not affect the correct approach

3.16 We do not consider that BT's current strategy for the copper network means it would be correct to favour an income approach. We are not aware of any cogent reason why BT's actual behaviour should affect the correct approach to reflect the residual value. It is an irrelevant consideration.

3.17 Regarding Ofcom's use of an anchor pricing approach, we similarly cannot see that this would provide a reason not to adopt the reduced depreciation approach. For example, even if Ofcom is modelling a hypothetical steady state all copper network it is still correct (and economically efficient) to reflect that the network has a residual value¹⁷.

3.18 Leaving this issue to a future charge control is also unsatisfactory since it will mean that prices through this charge control period (at least) do not reflect cost, and such an approach will increase perceived regulatory uncertainty.

3.2 Jumpering costs

3.19 In TalkTalk's submission of December 2013 we explained why we consider that the costs of MPF should be based on the use of single jumpering MPF (SJ-MPF)¹⁸. The key points we made in that submission were:

- prices should be based on efficient costs;

¹⁶ For example, for a fully depreciated asset the cost/price will be zero (under the income approach) whereas there will be a genuine opportunity cost of delaying the recovery of the copper reflecting the cost of capital. Under a reduced depreciation approach the opportunity cost will be correctly reflected since there will be a ROCE cost on the residual value

¹⁷ We note that in a genuine steady state BT would recover copper at the same rate that it was installing new copper cable.

¹⁸ TalkTalk (2013), *Implications of SJ-MPF Dispute Determination*, December.

- if SJ-MPF was introduced in 2007 or 2008 it would have been lower cost (i.e. more efficient) than DJ-MPF;
- Openreach knew, or could have reasonably known in 2007/08, that SJ-MPF was more efficient than DJ-MPF. For instance in a presentation in July 2007 where Openreach proposed deploying SJ-MPF, Openreach said:

“[double jumper] architecture came about in the early days of LLU when line volumes were low ... [double jumper] architecture is not ideal for a volume MPF world: ... inefficient use of MDF infrastructure... driving up MDF costs ... demanding of frames jumpering resource ... Uses more raw materials / labour than is necessary.”¹⁹

- Ofcom’s use of NGN to set NCC²⁰ prices (which is not the network that BT deployed) demonstrates that it can be correct and proper regulatory practice to adopt a different network configuration than that actually deployed by BT. Accordingly it can be appropriate to assume the use of SJ-MPF even if BT did not deploy it in practice.
- BT has already gained substantially from not implementing SJ-MPF – setting future prices based on efficient costs will stem consumer harm and improve the incentives facing BT.

3.20 Ofcom has raised with TalkTalk the question of whether Openreach could have known in 2007/2008 that the additional MPF volumes would be large enough to warrant deploying SJ-MPF, since although MPF volumes turned out to be very large that may not have been apparent at the time.

3.21 In Annex 1 we provide evidence of what was known in 2007 and 2008 regarding MPF volumes. We also model the type of scenarios in which deploying SJ-MPF would be lower cost (reflecting the volume of MPF lines in the exchange, number of MPF operators, and whether there was existing DJ-MPF equipment installed in the exchange). This shows that it would have been lower cost for the vast majority of additional MPF lines added after 2007/2008 to be deployed using SJ-MPF. Further, as is clear from Openreach’s presentation from July 2007, even BT saw that the volumes did justify some use of SJ-MPF.

3.22 We estimate that the MPF costs and MPF rental charge should be reduced by about [X] to reflect the use of SJ-MPF in most (but not all) cases.

¹⁹ LLU TAM – Selective ‘In-Line’ Deployment Proposed Usage. Gary Williamson / Andy Snellgrove
23 July 2007

²⁰ NCC – Network Charge Controls which are the charge controls for voice interconnection services

3.3 Allocations of central costs to LLU/WLR

- 3.23 A key step in the derivation of LLU/WLR charges is the process of determining how much of BT's total costs should be allocated to LLU/WLR products. We discuss this issue in this section²¹.
- 3.24 It is well accepted that the costs used to set prices for product(s) should be based on the incremental cost they incur plus a share of common costs²². The concept of basing prices on incremental costs is the same as the principle of allocating costs based on 'causality' – when an additional unit of output leads to additional costs (i.e., the incremental costs of output) those costs should be allocated to the unit of output which caused them to be incurred.
- 3.25 For a number of cost types the allocation of costs to LLU/WLR products (and indeed between the different products) based on causality is fairly straightforward. For instance, the costs of copper cable, MDF, testing equipment, and PSTN line cards are clearly caused by the provision of certain LLU/WLR services. However, in other cases the appropriate allocation to LLU/WLR (based on the principles of incremental costs and cost causality) is less obvious. We discuss (and challenge) below the allocation approach that Ofcom has used, since we do not believe that it properly reflects causality.
- 3.26 The table below shows how Ofcom has allocated a number of 'central' costs to LLU/WLR – the description is based on BT's regulatory accounting documentation (RFS12) and other sources. The allocations used to set charges are based on BT's chosen allocation method since Ofcom has not, as far as we are aware, changed the allocation method from that adopted in RFS12.

Category	Costs included	Allocation method	Amount to LLU/WLR
BT Group overhead	Group CEO, investor relations, audit, centralised regulatory, policy, legal, HR, tax, investor relations, audit	Pay and return on assets	~£100m ²³
Openreach overhead	Openreach CEO, regulatory, legal, finance, HR	Pay	£10s millions
BTID/TSO overhead	CEO, central management, HR, strategy, research	Pay and return on assets	unknown

²¹ The cost allocation between LLU/WLR products is effectively determined by Ofcom's assumptions for how common cost is recovered, incremental cost differences and price difference. These issues are picked up in sections 3 and 5.

²² December Consultation §3.7

²³ Based on 2009 LLU Charge Control Statement §A6.121. The allocation based on pay was £80m in 2012/13. Based on pay and weighted assets it will be higher

3.27 We have a number of concerns about these allocation approaches. First, the allocation approaches used do not reflect cost causality and, second, the basis of allocation excludes parts of the BT business without there being a good basis for doing so. The effect of both of these errors is to exaggerate the amount of cost allocated to regulated products.

3.3.1 RFS does not allocate costs on a causal basis

3.28 The allocation bases BT uses in the RFS are plainly not causal. As can be seen from the table above many of the central costs are allocated on the basis of pay and weighted assets (such as BT Group overhead, allocated under AG112).²⁴ Notably BT is seeking to increase the use of weighted assets for allocating – BT has introduced using weighted assets for BT Group overhead since 2009²⁵ and in the RFS13 tried to allocate Openreach overhead on the same basis.

3.29 However, if costs are examined at a granular level then it is clear that pay/assets is not the correct allocation approach and superior approaches are available²⁶. For instance:

- Procurement costs should be allocated on the basis of cash spend (i.e. opex excluding salaries plus capex) since procurement costs will vary in relation to the costs of services/product procured. They will not correlate with, and are not caused by either company expenditure on pay or the level of assets.²⁷
- The allocation of HR costs should be based on either FTE or pay. There is no reason to allocate on the basis of assets, as HR staff will not spend time on asset management.
- Sponsorship costs are for the benefit of and caused by BT's downstream divisions such as BT Global Services and BT Retail. Accordingly, Openreach should be allocated none of this cost, as Openreach's sales will be broadly invariant to BT's marketing and sponsorship.²⁸

²⁴ TalkTalk understands that the full approach is as follows. The total assets for each area of the business are determined. This asset base is then multiplied by BT's weighted average cost of capital (as determined by Ofcom in various market reviews) to determine the total return on assets. To this figure is then added the annual pay for the relevant business area. A similar calculation is undertaken for each area of the business. These areas are then allocated costs in proportion of the proportion of BT's overall pay and return on assets which are encompassed by that business area.

²⁵ In the 2009 LLU Charge Control BT Group overhead was allocated based on pay

²⁶ The vast majority of these costs will be variable and not fixed/common costs. For instance, HR costs reflect the number of people employed. Even much of the CEO cost is variable since as the organization becomes smaller then the CEO salary will decline and/or the size of their support team will reduce.

²⁷ There may be a small proportion of the procurement cost that is genuinely fixed and common (in the long run). However, this is likely to be small since, in the long term, a company would 'right size' the procurement activity to the size of the business. In any case, it would be most appropriate to attribute the genuinely fixed and common part of the procurement activity in proportion to the spend

²⁸ There may be an *indirect* relationship, as BT marketing provokes some consumers to move from Virgin Media to BT fixed line telephony services.. However, this will be appropriately picked up by allocating sponsorship costs to BT Retail (which itself causes the gain in revenue for Openreach).

- Legal costs should be probably allocated on the basis of operating cost (not FTE) since most legal work is related not to staff but to contracts with customers and suppliers. It certainly is not ‘caused’ by assets, particularly assets such as duct, as assets do not engage in litigation or disputes (unlike competitors, suppliers, customers and occasionally staff or their unions). The operating cost for the allocation of this cost element should therefore not include any depreciation charges.
- Strategy costs should be allocated on the basis of the products/business units that the work is undertaken for. It is unlikely that any meaningful quantum of strategy work relates to LLU/WLR since BT’s strategy activities are predominantly related to corporate acquisitions, new products, developments and innovations (e.g. fibre, 4G, Sports) and have almost nothing to do with LLU and WLR which are ‘legacy’ products.
- CEO costs should be allocated on the basis of revenue, as for listed corporate CEOs’ pay tends to be correlated with revenue, rather than profits or costs (and certainly not in proportion to pay or assets).
- Investor relations costs should be allocated based on the value of different parts of the business, as it is the overall market capitalisation of a company that tends to drive the level of interest from investors and analysts which creates a need for investor relations.
- Research should be allocated on a project-by-project basis to the business line benefitting from it. Research by its nature is undertaken into products or techniques which benefit a particular product or set of products; BT is not undertaking the type of basic scientific research (into theoretical chemistry or physics) which is non-product-specific or even for the benefit of the whole organisation. For example, research into vectoring should be allocated primarily to the cost of VULA. BT’s use of pay / assets is therefore a clear departure from the principle of cost causality.

3.30 It is clear that BT’s approach of using pay and pay / weighted assets is clearly inconsistent with the principle of causality.

3.31 It is also important to recognise that, at present, no overhead costs are allocated to NGA. BT’s reasons for not allocating these cost to NGA have nothing to do with causality: “*NGA is a relatively new platform so we do not allocate such overheads to activities that do not lead to cash*”²⁹. We also note that BT has allocated overhead costs to other ‘new services’ (presumably when it suits them)

3.32 Using pay and assets as BT have done (rather than more suitable allocation bases that reflect causality) may be seen as an innocent short-cut by BT. However, we consider that it is a straightforward tactic to allocate excessive amounts of cost to regulated products – pay and assets are (as would be expected, given that BT has chosen to adopt them) the two metrics that allocate the greatest proportion of costs to Openreach and regulated products. This approach therefore suits BT’s commercial

²⁹ 2013 DAM page 91

interests to inflate regulated charges (and in doing so harms customers). In this context it is notable that BT has moved to a 'worse' allocation approach – BT has introduced using weighted assets for BT Group overhead since 2009 and in the RFS13 tried to allocate Openreach overhead on the same basis.

- 3.33 The table below shows the share of costs that would be allocated to Openreach (and also to Openreach excluding fibre) using different metrics to allocate 'overhead' costs.

Allocation metrics³⁰

Metrics	Openreach % of BT Group	Openreach (excl fibre) % of BT Group
Metrics used in RFS		
Employees	34%	
Return on assets	56%	50%
Alternative / more suitable metrics		
Revenue	22%	21%
external opex	13%	12%
Capex	43%	32%
external opex + capex	18%	15%
Depreciation	34%	29%
Value		20%

- 3.34 BT has chosen the metrics that allocate the highest share to Openreach. It is not surprising that BT is looking to use the return on assets metric on a more widespread basis (as it proposed in the RFS13), since this (inappropriately) allocates yet more cost to regulated products.
- 3.35 By way of illustration, if BT Group overheads were allocated on the basis of 1/3rd employees, 1/3rd external opex/capex and 1/3rd value then the amount allocated to Openreach (and LLU/WLR) would reduce by about 45%³¹. This would reduce the cost allocated to LLU/WLR by £36m or about £1.50 per line.

³⁰ Based on analysis of BT Annual Report 2013 and estimates of Openreach fibre expenditure / revenue etc. For value, this can be appropriately proxied by RAV for Openreach, which can then be compared to the overall market capitalisation of BT Group to provide an appropriate proportionate allocation.

³¹ Openreach (excluding fibre) would be allocated approximately 22% rather than 41% of the BT Group cost

3.36 By way of another illustration, we have considered below the impact of using different metrics to allocate Openreach central costs. This is based on the limited information presented in RFS 2013 and, despite the shortcomings of that document, the below is fit for illustrative purposes.

3.37 We have examined two cost categories from the P&L of the RFS: “General Support” and “General Management” and have used these as a proxy for total Openreach central costs. Below we set out how much of these costs would be allocated to WLR/LLU based on the following allocation metrics: Revenue, Depreciation, Operating Expenditure and Return on Assets. We have juxtaposed these with BT’s methodology³².

Cost category	Allocation methodology				
	Revenue	Opex	Depreciation	Pay & Ret'n on Assets (RFS Actual)	Ret'n on Assets
WLR/LLU Allocation of Openreach central costs					
General Support % to WLR/LLU	34%	37%	40%	44%	58%
General Management % to WLR/LLU				41%	
General Support (£m)					
General Support (£m)	212	229	250	276	360
General Management (£m)	314	341	370	376	535
Total (£m)	526	570	620	652	895

3.38 The above shows that a change in the allocation metric for these two cost categories can lead to a change of up to £369m in the costs allocated to LLU/WLR (or £15 per line). Indeed, Pay and Return on Assets, used by BT in its 2013 RFS, gives the second highest allocation at £652m. Allowing BT freedom in its allocation decisions effectively enables it to maximise the costs allocated to regulated products which, clearly, has significant competition and economic impacts.

3.39 Bearing in mind BT’s ability to game this (and the significant financial benefit of it doing so), we consider it vitally important that the rationale for these allocation methodologies is fully scrutinised and questioned. In particular, even if it were appropriate³² to allocate any cost based on assets since, for instance, assets required management (and the costs being allocated related to those staff who manage the assets) then it must be recognised that assets are far from equal in this respect. For example, the allocation of an overhead costs category was caused by the need to manage £1m of duct assets requires far less management than, say, £1m of DSLAM assets, since duct is a long lived passive asset. If assets were used for certain cost categories, duct should be given no or low weight in calculating the total asset value.

3.3.2 Data used to make allocations incorrect

3.40 As well as using inappropriate allocation metrics (e.g. pay) it also appears that the pay and asset data that BT uses is incorrect. In particular, it appears that the

³² the numbers came from the RFS13 – Section 6.1 page 24. They take the total costs of “General Support” and “General Management” on that page and show the current RFS allocation to WLR and LLU and then gives alternative scenarios using different allocation bases (Opex, Depreciation etc.) to allocate these costs to WLR/LLU.

allocations do not allocate any cost to overseas subsidiaries – thereby allocating an excessive amount to regulated products (which are exclusively based in the UK). This is the same approach as in the 2009 charge control, where no cost was allocated to overseas subsidiaries and the CC recognised that this did not reflect the cost incurred. The CC said: *“It appears to us that the overseas subsidiaries contribute 20 per cent of group revenues. In such circumstances, it seems likely that at least some amount of management time is devoted to them ...”*. Similarly, it is not clear whether any applications systems/maintenance and computing cost is allocated to overseas subsidiaries even though (according to Ofcom) overseas subsidiaries use this cost.

3.3.3 It is appropriate for corrections to be made now

- 3.41 We first raised the issue of BT’s inappropriate allocations of central costs in the context of the 2009 LLU charge control. We subsequently raised these issues again in our responses to the 2012 LLU Charge Control (July 2011 and October 2011), our response to the call for inputs on cost orientation/RFS (Dec 2011), our response to the current LLU/WLR Charge Control Call for Inputs (Jan 2013), and our response on the consultation on regulatory financial reporting (Dec 2012).
- 3.42 We took comfort from Ofcom’s proposal in its Regulatory Financial Reporting consultation in November 2012 to review all significant allocations (such as these). Ofcom said: *“Ofcom should identify and review the most significant allocation bases; and propose changes where appropriate”*. Ofcom indicated that this review would be done as part of charge controls.
- 3.43 Therefore, we are rather disappointed that no such review and associated changes has been undertaken.
- 3.44 We consider that these changes are significantly more meritorious than those proposed by BT in the RFS2013:
- The (re)allocations which we propose here do not (or do not need to) result in under-recovery of costs that would result if costs were (re)allocated from products whose charges are about to be set to products whose prices have been recently set³³. In contrast the majority of BT’s suggested reallocations in the RFS13 would have resulted in over-recovery due to this factor.
 - Correcting these allocations would result in more causal allocations. Many of BT’s proposed allocation changes resulted in less causal allocations or no improvement to causality.
 - BT has had (since it had the ability to decide allocation rules) the discretion to set allocations for many years and Ofcom has rightly called time on this practice. Correcting these allocations would accelerate a process that Ofcom has already said needs doing

³³ For example the allocations of costs outside of Openreach e.g. TSO, BTID, BT Group overhead would be reduced. This would also reduce the cost of (say) Ethernet

- These changes has been long prefigured whereas BT's were introduced in last 6 months

3.4 What costs should be excluded

- 3.45 In its consultation (at §7.99), Ofcom reviewed whether deafness claim costs and career transition centre (CTC) costs should be included in the costs of regulated products when setting charge controls. They also asked a question regarding views on which costs currently included in the RFS should be excluded: *“Are you aware of any other specific BT RFS cost items which merit further investigation by Ofcom to establish whether they properly constitute efficiently incurred forward looking costs?”* (Qu 7.8).
- 3.46 We find this question a little curious. Ofcom must be aware that the level of transparency in the RFS is grossly insufficient, and as such it is not possible for outside parties to identify what costs are inappropriately included in the RFS. For example, it was not stated anywhere in the RFS that CTC costs and deafness claims costs were included in the costs of regulated products. Further, the description of costs is not adequate to assess whether they should be excluded. Therefore, CPs have no reliable way of identifying costs currently included that should be excluded. We therefore think that Ofcom should provide (or should compel BT to provide) a list of costs that are included within regulated charges, with greater specificity than in the current version of the DAM, so that CPs can properly comment on whether those costs should be excluded.
- 3.47 Notwithstanding this difficulty we provide below ideas on the costs that *might* be incurred by BT and *might* be included in the cost of regulated products that should be excluded (since they are not efficiently incurred forward looking costs).
- Pension deficit contribution (or pension surplus holiday). This cost should not be included since it is not forward looking (and is not incurred in order to provide MPF/WLR services).
 - Any other liabilities or legal claims related to activities carried out in the past (like deafness) that are not incrementally incurred to provide MPF/WLR services in future. These could include other workplace injuries such as asbestos inhalation, vibration white finger or occupational asthma. As long as BT has taken sufficient measures to remove the conditions which led to the problem, the entirety of these costs will not be forward-looking costs. Moreover, where there are breaches of employment law, we believe that costs incurred as a result could never be deemed to be efficient; even if costs are currently being incurred (as BT is injuring its employees) these costs should not be included.
 - The cost of the second jumper currently required under Openreach's approach to providing MPF. This is discussed above in section 3.2 where we explain why the additional cost of double jumpering for MPF is inefficiently incurred and so should be excluded.

- Cost of duct required to be replaced as a result of fibre roll-out. While the copper network may make use of the same duct as the fibre network, where duct is only replaced due to a need to blow new fibre down it, then there is no causal link between the expenditure on duct and the provision of MPF/ WLR. As such, the cost of this new duct should be excluded. It appears that the NGA assets shown in the RFS are far lower than that which is implied by Openreach's NGA incremental capex claims. This suggests that some NGA capex/assets may have been recovered in LLU/WLR (see section 3.6.2 below)
- Cost of BT activities based outside the UK. As the regulated elements of Openreach are solely based in the UK, and as Openreach solely deals with corporate customers (meaning that there is no need for non-UK call centres), we do not believe that any costs generated outside the UK can reasonably be caused by regulated products. BT should have to demonstrate specifically, on a line-by-line basis, why any non-UK costs should be allocated to regulated products.
- The (negative) cost from copper recovery income should be included. This is discussed above in section 3.1.

3.48 There are also a range of other cost categories where some proportion of the total cost can properly be included in the cost of regulated products, but where we believe that using the unadjusted cost is liable to result in an excessive allocation to regulated products, as the cost level is inefficiently high.

- Salary levels. We consider BT's current pay levels are well above best practice. UCKTA have submitted evidence to Ofcom on this matter; [X]. Furthermore, BT's pay settlements over recent years have been materially higher³⁴ than the UK average.
- Grandfathered salary levels – we understand that employees whose initial role is no longer required but move to a new role with a lower salary level (whether via the CTC or direct) have their existing salary levels maintained for a period in their new role³⁵. Such salary levels are not efficient, as BT could obtain staff in the open labour market more cheaply.
- Career transition centre (CTC) – the CTC is an arrangement whereby staff whose role is made redundant remain employed (on full salary) waiting for a different role to be offered to them. This employment policy is unique to BT, and it is not one that other firms would wish to replicate. In fact, we are not aware of any other firm, in any UK sector, which operates a similar policy of continuing to employ significant numbers of staff who have no current role within the company. The CTC can only be considered efficient to the extent that it enables BT to avoid redundancy costs which would otherwise be payable as BT's divisions downsize; CTC wage costs in excess of efficient

³⁴ BT's settlements have averaged about 3% (BT response to July Consultation Table 7.5) whereas wages and salaries inflation has averaged about 2% (from 2009 to 2013: -0.1%, 1.5%, 1.8%, 2.7%, 2.8%) and average earnings about 2% (from 2009 to 2013: 1.8%, 1.7%, 2.0%, 2.3%, 2.1%). These last two datasets come from the OBR Economic and Fiscal outlook December 2013 and March 2011

³⁵ We understand the original salary is grandfathered for 3 years

redundancy payments will themselves be inefficient. The costs applied to regulated products should therefore be the lower of the actual costs or the costs which would be incurred if all BT workers released were given statutory redundancy payments rather than being placed in the CTC.

- Redundancy – we believe that the levels of redundancy settlements offered are above efficient benchmarks as a result of a number of factors – for example, low staff churn meaning that staff have been employed with BT for long periods and therefore have high redundancy entitlements. Moreover, we consider that BT’s heavy unionisation is liable to further increase redundancy payments above the efficient level.
- Central management costs – we consider that certain costs allocated to MPF/WLR (particularly overhead costs) are far greater than the genuine incremental forward looking cost. Furthermore, BT incorrectly does not attribute any of its head office costs (such as the costs of the offices of the Chairman, CEO, and head of Group HR) to overseas subsidiaries. We discuss this further in section 3.3 above.

3.5 BT regulatory advocacy and litigation costs

3.49 We consider that the cost of BT’s regulatory advocacy activities should be excluded from the costs of regulated products. Although regulatory compliance is a reasonable cost to include, we do not believe that regulatory advocacy costs should be allocated to regulated products within the RFS. In our view these costs are not efficient and BT’s level of spend is excessive – for instance:

- BT’s regulatory teams include well over 50 FTE. We consider an efficient level is less than 10 FTE given other industry benchmarks (TalkTalk’s regulatory team operates with [X] FTEs and other larger CPs have between 2 and 5 FTEs) and the scope of BT’s activities;
- BT’s use of consultants is excessive. By way of example they commissioned 3 reports on the almost irrelevant issue of climate change for the LLU/WLR charge control review. Such wasteful expenditure is symptomatic of a firm which is able to pass its costs on to customers without regard for their reaction;
- BT’s level of litigation is unreasonably high both in terms of the points it challenges (e.g. Ethernet), the breadth of its appeals and the excessive use of resource, particularly senior resource such as QCs.³⁶ TalkTalk considers that this again shows that BT has too few incentives to control its costs of regulatory litigation, as it is able to pass these costs on to its customers via its regulatory accounting policy.

³⁶ For example, in the recent Ethernet appeal it used two QCs and two juniors and had 5-7 other staff in the 2 week hearing. By contrast TalkTalk and Sky (together) had two juniors and 2-3 other staff in the hearing

- 3.50 Further and in any case, we consider it unreasonable that BT's costs of regulatory advocacy is partly recovered from its wholesale customers whereas these same wholesale customers are not able to recover their regulatory advocacy costs from BT. Furthermore, BT's regulatory advocacy typically has no benefits for its customers— BT's arguments are generally in favour of higher prices and lower quality of service. In a competitive market, firms would not be able to pass on costs which were not incurred to provide any customer benefit.
- 3.51 BT's ability to pass on its regulatory advocacy costs to customers will generally be expected to lead to an inefficient litigation by BT against Ofcom's decisions; there will both be too many litigation cases undertaken, and those litigation cases will involve inefficient over-expenditure on legal fees. For example, suppose that Ofcom takes a particular decision which reduces BT's profits (over the whole of a charge control) by £2.4m. BT considers that its costs of litigating will be £1m, and it will be able to reclaim at most £250k of costs from Ofcom if it wins. If it loses, BT will have to pay Ofcom's costs of £250k. In this case, it can be shown that BT will litigate if it believes that it will win 43% of the time or more.³⁷ However, suppose that BT can make other CPs pay 60% of its legal costs. Its net costs will then be only £300k if it wins, and £500k if it loses, with other CPs picking up the rest. It will then litigate as long as it has a 19% chance of winning the case.³⁸ As such, there will be a wide range of cases (where BT has a chance of winning between 19% and 43%) where BT would not litigate if it had to pay its own costs, but will do so due to its ability to make other parties pay its costs. This is inefficient, and will result in a waste of court time, excessive charges to BT's downstream customers, and vexatious litigation against Ofcom. The greater the proportion of costs passed on to third parties, the more inappropriate the cases which BT will be incentivised to pursue.
- 3.52 It can also be readily shown that BT will spend too much when it chooses to litigate. Suppose that increasing litigation expenditure (on having multiple QCs, many juniors, high priced solicitors firms and so forth) leads to an increase in the chance of winning a case, but that there is diminishing returns from more spending (so increasing legal costs from £100k to £200k leads to a greater increase in the chance of winning than increasing legal costs from £800k to £900k). BT will rationally continue to increase litigation spending on a case whenever the expected marginal revenue from doing so (in the form of a higher chance of winning leading to regulatory outcomes that are more profitable for BT) exceeds the marginal cost— if BT has to pay its own legal bills, it will stop spending money when the marginal benefit of another £100k of spending. However, where BT is able to pass on 60% of its litigation costs to customers, the marginal benefit from an additional £100k of expenditure will only need to be £40k for it to be rational to continue to increase legal bills. This will result in wasteful over-expenditure, reducing productive efficiency, and landing both CPs and Ofcom with excessive charge orders against them.

³⁷ If BT wins, its net gain is £1.65m; if it loses, its net loss will be £1.25m. The equation to solve for is therefore $0 = 1.65x - 1.25(1-x)$. Solving for x gives a 43.1% required win percentage.

³⁸ If BT wins, its net gain is £2.1m; if it loses, its net loss will be £0.5m. The equation to solve for is therefore $0 = 2.1x - 0.5(1-x)$. Solving for x gives a 19.2% required win percentage.

3.53 These two effects will in general combine and reinforce one another, so by over-spending on a case, BT will be able to increase the chance of winning so that even cases with a very low probability of winning are profitable to pursue. In the example above, BT will likely rationally contest cases where there is even less than a 19% chance of winning, due to its ability to increase the chance of winning through over-spending on barristers, solicitors and consultants.

3.6 Other comments regarding the base year costs

3.54 There are a number of other points which TalkTalk would like to make regarding the approach to the RFS as set out in Ofcom's 19 December document.

3.6.1 Amount of CTC cost that needs to be excluded

3.55 We note Ofcom's point at §§7.103-7.107 that CTC costs have previously been included on the basis that they were small in 2009/10, at £0.4m. We are, however, concerned about CTC costs on two levels. The first is that these costs seem disproportionately small when compared to the additional costs of £13m which BT proposed to allocate to access markets in its revised allocations for RFS13. As such, we would expect the CTC costs already allocated to regulated products (on the basis of the RFS12 allocations) that should be excluded may be considerably greater than £0.4m. The second issue is a more principled one, which is that even if the CTC cost to Openreach remains below £1m, this does not appear to be a particularly strong rationale for not removing it. Ignoring relatively small misallocations opens the way for BT to salami-slice the RFS, by engaging in large numbers of misallocations which fall below the threshold. By doing this, BT can potentially inappropriately reallocate substantial sums to regulated products, to the detriment of consumers.

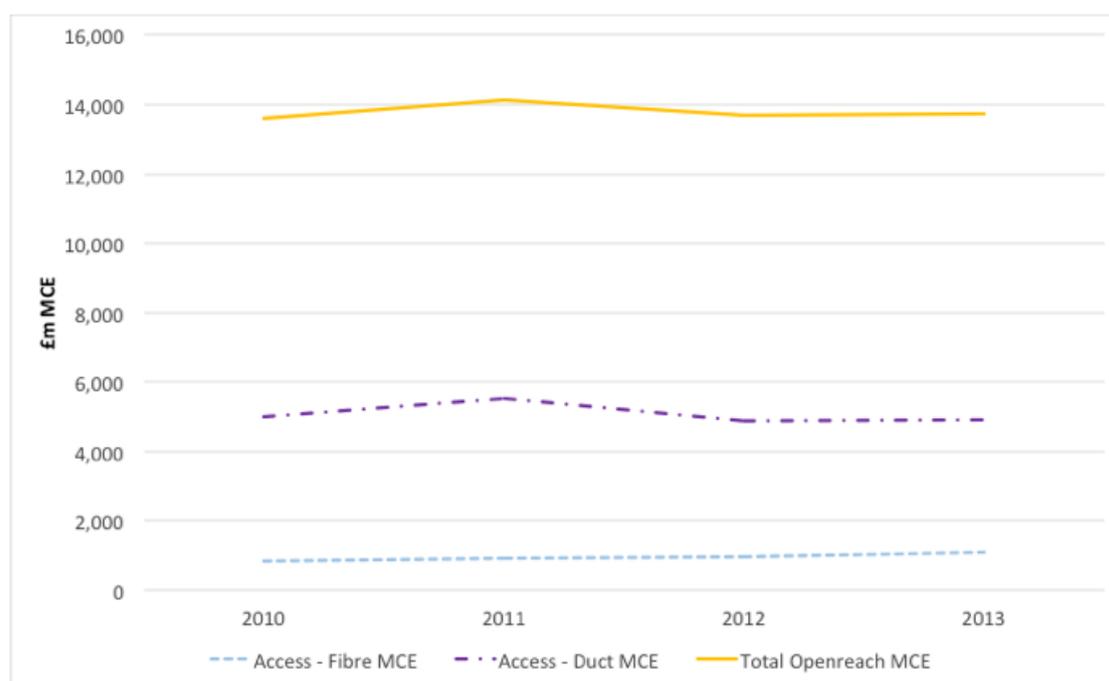
3.6.2 Incremental NGA costs allocated to MPF/WLR

3.56 TalkTalk continues to have concerns that incremental NGA costs have been included in the costs of LLU/WLR. We believe that the points made by Analysys Mason (referred to by Ofcom at §7.111.1) only further strengthen our view that there is likely to be an over-allocation of cost to copper as a result of this approach. Ofcom's view, at §6.71 of the July consultation paper, that *'given that some of the cost of the existing duct network is already allocated to fibre in our cost modelling, we do not consider it likely that, at an aggregate level, copper services pick up costs in excess of those that would be incurred by a copper-only network'* provides no comfort to TalkTalk, as it is clear that Ofcom has not undertaken work to validate this view. We are particularly concerned about this given the low value of fibre represented by Openreach in RFS13.

3.57 BT alleges that its commercial fibre roll-out will have cost about £2.5bn³⁹, and that most of this roll out was completed between 2010 and 2013. However, the graph

³⁹ Though BT say that this will include some opex

below shows the duct, fibre and Openreach total MCE values stated in Section 10.3 of the RFS between 2010 and 2013.



3.58 The above illustrates the absence of a significant increase in asset values in either duct or fibre and, further, that total Openreach assets have remained relatively static. Specifically, fibre assets at March 2013 were £1,095m (of which £459m were attributed to AISBO) compared to £839m (AISBO £378m) in 2010 – a modest increase. It is unclear why NGA assets (worth up to £2.5bn) do not appear on Openreach’s balance sheet. If, as BT claim this cost was for fibre roll-out, the cost should be allocated to NGA and one would expect an allocation to be apparent in the RFS. As such, we believe that Ofcom needs to closely scrutinise the capital expenditure and assets of BT to ensure that incremental NGA capex/assets have not been allocated to LLU/WLR.

3.6.3 Allocation mistakes raised by Analysys Mason

3.59 It is unclear to TalkTalk why Ofcom does not consider it appropriate to address the allocation mistakes outlined at §§7.111.2-7.111.3. We believe that both of these mistakes could be dealt with relatively simply. Ignoring relatively small misallocations opens the way for BT to salami-slice the RFS, by engaging in large numbers of misallocations which fall below the threshold. By doing this, BT can potentially reallocate inappropriate and substantial sums to regulated products, to the detriment of consumers.

3.6.4 Cumulo

3.60 We note that there is no reference in the 19 December consultation paper to cumulo costs. It is therefore unclear what Ofcom’s latest thinking is on this issue, and Ofcom

has offered no positive reason for using PWNRC. In TalkTalk's view, there is a clear causal relationship, whereby the number of MPF lines increasing (and a corresponding decrease in the number of WLR lines) leads to a reduction in cumulative costs. In our view, Ofcom has failed to reflect this relationship in its current proposals.

4 Fault repair and testing costs

4.1 Much of Ofcom's consultation addresses the level of total faults and repair costs and the appropriate allocation of fault repair costs as between MPF, WLR and SMPF services. These two issues are discussed below. We discuss the cost impact of higher or lower QoS in section 10 - this covers both the cost impact of a higher care repair level/SLA and the cost of higher performance in terms of the proportion of provisions or repairs delivered within the SLA. Much of TalkTalk's view on this topic is based on a report by Frontier Economics which is provided alongside this submission⁴⁰.

4.1 Efficient fault rate level

4.2 In the July consultation Ofcom noted how BT's volume of faults (excluding GEA) had risen from 1.9m in 2009 to 2.9m in 2012⁴¹. The 1.9m figure was based on pro-rating the 3 months of Jan-March across the year. Ofcom suggested that this increase could have been caused by the known reduction in preventative maintenance and other factors, and that the 2012 level of faults might therefore not be efficient.

4.3 In the December consultation Ofcom has changed its analysis and provisional conclusions. It now says that the number of faults in 2009 might have been as high as 2.5m based on a projection forwards of the known 2007 number of faults and that it will not assume that the 2012 fault level is inefficient. It said:

'the overall level of faults in the base year [i.e., 2011/12] should be what was actually experienced and which is consistent with the costs that we assume in the base year'.⁴²

'[we] do not consider there is adequate information as to what an efficient fault level should be'.⁴³

4.4 We think that Ofcom's evidence and conclusions on this issue are not sound for a number of reasons.

4.5 Ofcom's 2.5m estimate for the volume of faults is almost certainly not correct. Ofcom based the 2.5m by forecasting forward the 2007 number of faults and using a 2% reduction in faults, based on the estimate Ofcom made in 2008 of the annual reduction in faults. However, the evidence, based on BT's statements in its annual

⁴⁰ Frontier Economics (2014), *Treatment of the Level of Faults in the WLR and LLU charge controls for 2014-17*, February.

⁴¹ 19 December consultation, Table 5.2

⁴² 19 December consultation, §5.161

⁴³ 19 December consultation, §5.158

reports, shows that the actual level of reduction was over 10% per annum. Using this gives an estimate of about 1.8m faults in 2009 (lower than the previous estimate). Thus the two reliable estimates for the number of faults in 2009 are 1.8m and 1.9m, and so the increase in faults is at least 1.1m. There is no sound empirical evidence to use 2.5m for the number of faults in 2009.

- 4.6 The increase in faults from 1.8m or 1.9m to 2.9m cannot be explained by an increase in rainfall or higher uptake of broadband. The increase in rainfall might suggest an increase in faults of 0.06m⁴⁴ and the higher uptake of broadband about 0.03m extra faults⁴⁵. This was explained more fully in our previous submission.
- 4.7 Instead, the likely causes of the substantial increase in faults are the known reduction in preventative maintenance, NGA roll-out, and other factors within Openreach's control.
- 4.8 CSMG's conclusion that NGA has no impact on LLU/WLR faults is not reliable since the statistical method used by CSMG is unsound. Frontier have suggested a straightforward panel data analysis that can provide a more reliable estimate of the impact of NGA.
- 4.9 We believe that there are also two other indicators which support our position that NGA causes higher faults:
- the e-side and d-side current cost trends (the majority of these costs are fault repair costs). Whilst in 2013 RFS⁴⁶ the e-side cost (and so presumably fault repair costs and fault rates) fell (WLR -9%, MPF -2%) the d-side costs rose (WLR +8%, MPF +19%). Since FTTC deployment and uptake will primarily interfere on the e-side copper these differences in fault rates are consistent with FTTC causing more faults.
 - evidence revealed during the 2012 LLU Charge Control appeal regarding faults also showed that access faults had risen whilst exchange faults had fallen. This also reinforces the conclusion that NGA has caused an increase in faults, since NGA will only affect access and not exchange faults.
- 4.10 Even if the data for 2009 faults were unclear and thus the level of increase in faults was also unclear, we consider that Ofcom's approach effectively awards BT the 'benefit of the doubt'. Ofcom is saying that in the absence of reliable data they will effectively err in BT's favour. Such an approach is, in our assessment, unfair and creates moral hazard. The lack of reliable data for 2009 is a result of BT's poor record keeping and so BT will now have an incentive to 'bury bad news'. Ofcom should seriously consider that this lack of data may be due to BT's negligence,

⁴⁴ Ofcom's analysis that the 20% increase can be attributed to rainfall is wrong. Ofcom incorrectly bases its analysis on the increase in rainfall from 2010 to 2012 (5.109). The correct analysis based on 2009 is that there has been an increase in rainfall of 110mm which would imply a 0.06m increase in faults.

⁴⁵ According to Ofcom adding broadband to a line only increases faults by 15% (relative fault rate WLR+SMPF 1.0 versus WLR only 0.87) so the 10% increase in broadband uptake over the period would have resulted in an increase in fault levels of 1.5% or 0.03m faults.

⁴⁶ 2013 RFS Section 7.3.2

regulatory gaming or unlawful behaviour, and draw reasonable inferences from this assumption as to how negative the data is likely to be for BT's position. In respect of the remitted fault rate issue from the 2012 LLU Charge Control appeal BT knowingly did not provide information to Ofcom that it was requested to provide.⁴⁷ In light of this recent experience it is perverse and unfair to allow BT the benefit of the doubt based on lack of data.

4.11 Lastly, even if Ofcom do consider that the 2012 fault level was at the efficient level, it would be incorrect to use this for projecting fault rates in 2016/17. This is because the level of rain in 2012 was 'exceptionally' high and above average future levels. Ofcom should base the 2016/17 fault rate and cost estimate on average rainfall levels⁴⁸ which would suggest about 4% lower fault costs and MPF/WLR costs about £0.50 lower.

4.12 The lower fault rate should be reflected in lower ELF rates and ILF rates. We discuss below how the fault rates and costs for each product should be projected.

4.2 Allocation of fault repair costs

4.13 We consider that there is a more appropriate and economically more efficient approach to allocating fault repair costs than that which is currently proposed by Ofcom in its consultation. We suggest two key changes: first, that early life fault (ELF) costs should be recovered from the provisioning activities that cause them; and, second, that the in life fault (ILF) rate for MPF should be set lower than WLR+SMPF in line with the available evidence.

4.2.1 Recover ELF costs from provision products

4.14 We believe that it would be more appropriate to recover early life fault (ELF) repair costs from provisioning activities (e.g. MPF New Provide) and recover only in-life faults (ILF) from rental charges. This has several clear benefits.

- It is more cost causal than the alternative approach of recovering all of the costs of both ELF and ILF from rentals. A 'young' line (that is, a newly provisioned line, including MPF and WLR migrations and new provides, but not WLR transfers⁴⁹) have fault rates about 6 times higher (per month) than a line that is not newly provisioned – CSMG data shows that 4.8%⁵⁰ of young lines are likely to fault in their first 28 days, whereas 'older' lines exhibit a fault rate of 0.8% per 28 days⁵¹. In effect, the additional faults on a young line over and

⁴⁷ See [§<].

⁴⁸ The impact of climate change is, as Ofcom rightly notes, a long term impact that will not affect expected average rainfall in 2016/17

⁴⁹ We note that the higher apparent ELF rates for MPF (versus WLR) are misleading, since WLR includes transfers which are likely to have much lower ELF rates than situations where the a new line needs to be provisioned (e.g. MPF/WLR New Provide) or where a previously inactive line is started and jumpering activity is required (e.g. MPF Start Stopped line).

⁵⁰ December consultation, Table 5.5

⁵¹ 9.1% a year equal to 0.8% per month

above the ILF level are caused by the line having just been provisioned, rather than by its continuing operation.

- By setting prices that reflect incremental cost (i.e. properly reflecting the causality) economic efficiency will be improved – for instance, the purchasing behaviour of wholesale customers and investment behaviour of Openreach will be more efficient since the rental and provision prices better reflect underlying costs;
- Under Ofcom’s current approach it forecasts the overall fault rate (ILF plus ELF) per line to be flat. However this will mis-estimate the level of faults since the proportion of MPF provisions is reducing. Ofcom did not make this same adjustment in the 2012 LLU Charge Control and the CC considered that Ofcom had erred. To avoid repeating this error Ofcom can either:
 - adjust the overall fault rate to reflect the changing proportion of young lines; or,
 - include the ELF cost in the relevant provision charges.

The second approach is more transparent and straightforward.

- Recovering ELF costs in provisioning charges would also avoid the potential forecasting error (and under- or over-recovery) that would arise if the total fault cost reflected the changing proportion of young lines and that forecast was incorrect. By including ELF costs in the provision services it avoids this potential over- / under-recovery

4.15 Calculating the adjusted costs will be fairly straightforward – recovering the ELF cost in provision charges will increase provision product costs (e.g. MPF New Provision) and reduce rental charges. There are a number of other issues Ofcom might consider:

- there should probably be no (or a much lower) ELF cost included in WLR transfers (or service reconfiguration), since the fault ELF rate on these is likely to be low as the provision/ change only includes electronic processes;
- it may be worthwhile using different ELF rates and costs for different provision products (e.g. stopped line restart and new provide) – for instance, we understand from the OTA that the ELF fault rate is highest on stopped line restart and lower for new provides and migrations;
- for analogous products the ELF should be the same, i.e. MPF New Provide should be the same as WLR New Provide or it might be that the ELF rate for MPF is lower (as the ILF rate lower for MPF⁵²);
- Ofcom could make this correction through a one-off correction in year 1 (i.e. a PO adjustment) or via the normal glidepath. We consider that through the glidepath would be preferable to avoid disruption

⁵² The higher apparent ELF rate for MPF (versus WLR+SMPF) e.g. Table 5.4 is misleading since it includes WLR provision that do not generate ELFs

4.16 We estimate that making these changes will (all else being equal) increase provision costs/prices (excl transfers) by approximately £5 to £10 and reduce MPF/WLR rental charges by £1 to £2.

4.2.2 Assume that the MPF ILF rate is less than WLR

4.17 We believe that, with a split having been made between ELF and ILF, and the costs of ELFs and ILFs attributed to different products, Ofcom should adopt a lower ILF repair cost for MPF than WLR+SMPF since there is clear evidence (and reason) that supports this.

- The CSMG data is strongly supportive of this position (see Table 5.4 of the 19 December consultation) and they say that MPF rates have been consistently lower (see §5.63). MPF had lower ILF rates than WLR+SMPF in both 2011/12 and 2012/13 (by about 6%). There is thus empirical support for TalkTalk's position.
- Moreover, there are a number of sound reasons as to why MPF lines would be expected to have lower (in-life) fault rates than WLR+SMPF lines:
 - There are different approaches to test access – WLR is via line card and MPF is via TASM;
 - CPs have their own testing capability so testing is likely to result in fewer 'false positives' for faults (and will also allow lower cost repair as the fault can be identified more accurately);
 - The fact that there is a single provider of both broadband and voice telephony means that it is simpler to operate the service, and there are fewer potential points of failure, tending to lead to lower fault rates.

5 Incremental cost differences

5.1 Ofcom has provided new estimates of the incremental cost difference between MPF and WLR and between MPF and WLR+SMPF. We comment below on Ofcom's method and assumptions.

5.1 Overall approach

5.2 Rather than a product level estimate of LRIC based on BT's RFS LRIC estimates⁵³ Ofcom has modified its approach to be a component based / bottom up method whereby the incremental cost differences for each component are estimated based on the known/estimated differences between MPF and WLR/SMPF (e.g. fault rates, testing equipment, line card, jumpers etc.). This 'bottom up' approach is materially superior to the previous approach and should be adopted:

⁵³ Using BT's estimates of LRIC as a proportion of FAC at the product level

- The previous approach relied on BT’s estimates of LRICs – not only is this opaque but it relies on BT’s assumptions which (as we know with the RFS) can be heavily biased in BT’s favour and distorted by BT’s self-serving commercial considerations;
- The previous approach used BT’s LRIC estimates as provided in the RFS as an estimate of incremental cost. Whilst this might be appropriate in some cases it is not appropriate in all cases since, for example, the increment used to estimate the LRIC in the RFS for frame cost is inappropriately large for the purpose of setting the price difference
- The new approach is far more transparent and so more conducive to effective stakeholder engagement and comment. Transparency also provides greater regulatory certainty.

5.2 Fault repair

5.3 As we explained above in section 4.2.1, the rental charge should only include the in-life faults (ILFs), with ELFs being picked up through provisioning and migration charges. There is clear evidence that the ILF for MPF is about 6% lower than WLR+SMPF and this should be reflected in the incremental cost differences which would add about £0.50 to the differential.

5.3 TAM cost

5.4 Ofcom has provisionally estimated the incremental TAM cost (which is only used for MPF) at £5.07, based on a FAC of £5.50 times an incremental cost % FAC of 92%.⁵⁴ This figure appears to be too high.

5.5 In the SJ-MPF dispute Ofcom needed to calculate the (incremental) cost of TAMs in order to assess the cost difference between SJ-MPF and DJ-MPF. The unit costs that Ofcom used can be approximately derived from the NPV outputs and Ofcom model. Using these we derive a TAM cost of around £4. We can provide this model to Ofcom.

5.6 We believe that TAM costs are a category to which Ofcom should apply particularly rigorous oversight. TAMs are only used by third-party competitors to BT – they are not used by BT Retail to any material degree. As such, inflating the cost of TAMs has the potential to damage BT’s competitors, without allocating any additional costs to BT Retail.⁵⁵ TAM costs could in principle be inflated in two ways.

5.7 The first is if BT were able to over-allocate costs to TAMs via the RFS⁵⁶. Such over-allocations appear to have taken place. In the current RFS the TAM cost (per MPF

⁵⁴ 19 December paper, Table 7.3

⁵⁵ BT Retail do not, of course, pay charges regardless of what they are levied on, as Retail and Openreach are subsidiaries of the same parent company.

⁵⁶ TalkTalk believes that this issue may be addressed, at least in the longer term, by Ofcom’s proposed changes to the manner in which costs can be allocated under the RFS

line) is £8.47 whilst the evoTAM cost (per line using evoTAM) is £6.75 despite, according to Openreach, the evoTAM being “considerably more expensive”⁵⁷ – Ofcom considered that the TAM cost was excessive compared to the evoTAM cost. BT’s explanations for this difference is simply not credible e.g. the difference in sites will only have a small effect. In essence, BT has gamed the RFS to inflate the cost of TAMs. They adopted a similar approach with service assurance costs, where the costs of MPF service assurance are £1.00 higher than WLR+SMPF for no cogent reason.

- 5.8 This point is further illuminated by the previous approach which BT has taken to depreciation of TAMs. TAMs have historically been depreciated over a five year period, while evoTAMs– which fulfil essentially the same role but for SMPF, rather than MPF, lines– have been depreciated over a seven year period. In its response to Ofcom’s questions (as set out at §7.9), BT does not even attempt to argue that this approach has been appropriate, instead citing that the LLU TAM life was set in 2002 on the basis not of the economic life of the asset, but of then contract terms with suppliers that pertained at that point in time. It seems that BT has never sought to review this depreciation policy, despite its obvious inappropriateness.
- 5.9 Furthermore, the incentive for BT to inflate costs of services which it does not use internally (or does to a very limited degree) is one which is far more wide ranging than TAM costs. There are several services which are either exclusively or predominantly used by external wholesale customers, and these products are significant both in terms of the revenue they generate and their competition implications. In particular, BT can use its discretion to maximise the levels of cost allocated to services such as Netstream, Backhaul Extension Services (BES), Ethernet Backhaul Direct (EBD) and, in the context of this consultation, MPF rentals. Though the level of common cost allocated to MPF rentals has been considered at length by Ofcom in its consultation, the above services are an illustrative example of those which give BT the opportunity to game the allocation of common cost (above LRIC) in its own favour and to the detriment of its downstream competitors. Until such time as Ofcom require BT to publish clearer and more detailed information on common cost allocation in its regulatory reports (particularly the DAM), it will remain difficult for third parties to effectively scrutinise relative allocations of common cost. Presently, therefore, we would urge Ofcom to consider the allocation of costs to such products such as these with a degree of scepticism.
- 5.10 TalkTalk believes that it is important to acknowledge that if there is a straightforward switch from a five year depreciation policy to a seven year depreciation policy, without undertaking any offsetting adjustments, there may be a windfall gain to BT from the change.⁵⁸ As such, TalkTalk considers that it is imperative that the asset

⁵⁷ A3.179 “The Openreach models include NPV analysis for both evoTASM and standard TASM solutions. In Openreach’s models evoTASMs are considerably more expensive”. Dispute between TalkTalk and Openreach relating to single jumpered MPF 15 November 2013

⁵⁸ For example, suppose a TAM costs £70k, and is depreciated over 5 years at £14k per annum. When depreciated over 7 years, the depreciation charge is £10k per annum. Consider the case of such a TAM which has been installed for 3 years before the depreciation approach is switched. In such a case, BT will have recovered £42k (=3 x £14k) in the first three years before the change, and then will

value of a TAM is adjusted at the time of the switch in depreciation policy, so as to eliminate the windfall gains which would otherwise accrue to BT.

- 5.11 The second issue is that BT has little incentive to make cost efficiencies in the procurement or usage of TAMs, as by doing so it will make its own reduce the costs of its downstream competitors making them more competitive, and thus better able to win market share from BT Retail. This contrasts with other costs, which are generally used by all downstream parties, and which therefore do not shift competitive conditions between BT Retail, TalkTalk and Sky in the same way (or to the same degree). It is this latter incentive which TalkTalk believes makes it particularly important that Ofcom scrutinises the costs of TAMs.
- 5.12 Given BT's lack of incentive to be efficient in respect of TAMs, it may be worth Ofcom benchmarking the efficient cost of TAMs versus evoTAM prices. It would be expected that TAMs cost less than evoTAMs since their functionality is more limited and indeed Openreach have said they cost considerably less. This would give TAM price range of £4 to £5.
- As noted above evoTAMs are considerably more expensive than TAMs
 - The FAC cost of an evoTAM is £6.75 – thus assuming that a TAM is 'considerably' less expensive we could assume it costs £5
 - Assuming LRIC % FAC is 92% this give a TAM LRIC cost of £4.60

5.4 evoTAM costs

- 5.13 Ofcom has proposed not recovering evoTAM costs from SMPF since external purchasers of SMPF use SMPF lines which do not include evoTAMs. We support this approach in principle, as we believe that to do otherwise would lead to third parties cross-subsidising BT Wholesale's operations.⁵⁹ However, we consider that excluding the evoTAM cost is only appropriate if external SMPF customers only use SMPF without evoTAMs in 2016/17. It is unclear whether this will be the case; it may therefore be better for there to be two SMPF variants, one with evoTAM and one without.

5.5 DSLAM maintenance

- 5.14 Ofcom says that it now 'understands' that the DSLAM capital maintenance cost item is in fact nothing to do with DSLAM, capital or maintenance but is rather fault

recover a further £40k (=4 x £10k) in the four years after the change if recovery is still based on straight-line depreciation of an asset with a start value of £70k. Total recovery will therefore be £82k, and BT will make a windfall gain of £12k from the switch of depreciation policy. In this case (for a TAM which has been installed for 3 years at the time of the depreciation policy switch), there would need to be a reduction in the RAV of the TAM of £21m to offset the impact of the change. The scale of the reduction in RAV will depend upon how long the asset has been in service– the longer the period for which it has been depreciated on the basis of a 5 year asset life, the greater the reduction in RAV should be.

⁵⁹ As BT Wholesale is the only user of evoTAMs at present. See §7.30.

repairs. Ofcom describes the cost as SFI fault repairs and 'broadband faults' (§2.22, §7.39) though it is not clear what Ofcom means by this. It appears to be the cost of repairing SMPF lines both due to SFI faults (i.e. lines that meet SIN349 standard) and normal line faults (i.e. where the line does not meet the SIN349 standard).

- 5.15 We also note that the implications of Ofcom's findings is that historically BT has been double-recovering SFI costs (once in SMPF rental charges and also in SFI charges which are separately levied). We consider it appropriate for Ofcom to consider if this past double recovery should have been noticed by BT, and whether it should lead to any further regulatory action or changes, reflecting BT's over-recovery.

5.6 Service assurance

- 5.16 We understand that service assurance costs are the non-engineer costs of handling fault reports (such as customer service agents). TalkTalk believes that it is obvious that the costs of service assurance should be allocated in the same proportion as fault rates e.g. fault rates for MPF and WLR + SMPF should be equal⁶⁰. We consider that BT allocating higher service assurance costs to MPF than to WLR + SMPF is just another example of BT strategically over-allocating costs to regulated products like MPF which are solely used by its downstream rivals.

- 5.17 However, in line with our proposals above, we believe that Ofcom should go beyond this, and split service assurance costs between ELF (which would be assigned to provisions) and ILF (which would be assigned to rentals). We believe that this would be the most cost causal allocation approach available.

5.7 PSTN line card cost

- 5.18 Ofcom considers the costs of line cards at Table 7.3 and §7.61.2. We believe that it is important that Ofcom provides greater transparency on this topic. It is unclear to TalkTalk why the LRIC:FAC ratio should have declined so sharply (from 92% to 70%) over a mere two year period.⁶¹ We agree with Ofcom's view that this may not be a 'true' cost movement which would have occurred in a steady state network, and therefore believe that this issue merits further analysis. Absent other data we suggest that the LRIC % FAC figure for PSTN line card should be equal to or higher than that for TAM since it is likely that non-incremental costs have been 'loaded' onto TAMs.

⁶⁰ The higher SLAs for MPF and SMPF should not affect service assurance costs – arguably the service assurance cost may be lower since the faster repair may result in fewer calls to chase upon progress

⁶¹ We are aware that Ofcom has set out its formulas at footnote 339. However, as we do not have access to the relevant CVEs and AVEs, it remains unclear to us exactly why line card costs are alleged to have moved in this way.

5.8 Frame costs

- 5.19 An MPF line (currently) requires two jumpers rather than the one that a line with WLR requires. Ofcom has estimated (in its 'base case' in Table 7.6) the incremental additional frame capital cost as £1.30 (= FAC of £1.60 x 80%). There is also a frame current cost but it is unclear from the table what this actually is.
- 5.20 Ofcom then noted, in line with its assumption in the SJ-MPF Dispute Determination, that the appropriate incremental cost is not equal to the LRIC as identified by BT in its accounts. This is because the increment that is used in the RFS to derive the LRIC is "*the cost savings from entirely stopping frame related activities*" (\$7.76) and this increment is not appropriate for deriving the incremental cost in this case which is a relatively small change in the use of the frame. Reflecting this Ofcom has then adjusted the frame capital figure downwards (using incremental cost of 10% of FAC i.e. £0.16) in line with the assumption used in the SJ-MPF dispute which assumed that only the blocks cost was incremental (see Table 7.7).
- 5.21 We agree with this change to the frames capital cost. However, Ofcom needs to apply the same logic to frame current cost. In the SJ-MPF Dispute Determination Ofcom identified that many frame current costs would not vary with relatively small increments. For example, Ofcom said:

We also noted that we had found it difficult to identify and collect data on any incremental savings in operating costs associated with frames. In the absence of other data we had used LRIC data for the component LE general frames current to estimate the likely scale of operating cost savings on frame repair and maintenance costs from moving to SJ-MPF. This led to estimates of [£] and [£] per jumper in 2011/12 and 2012/13. We included cost contributions from the following sectors: provision, maintenance, general support, plant support, customer support, planning and development, and supplies and transport. We excluded costs from the sectors: POLOs, marketing and sales, finance and billing, computing, personnel, accommodation, general management and other, on the grounds that these are unlikely to vary with the number of jumpers that are installed. We also excluded depreciation and capital costs as we considered these would be small and would not reflect the direct costs of frame maintenance and repair. In any case, we considered that capital costs captured within the LE general frames capital component were not relevant as the only incremental capital costs we had been able to identify were the costs of frame blocks (which were separately modelled).⁶²

However, reducing the number of jumpers on the frame will not enable BT to remove the exchange building from its portfolio. We consider it unlikely that accommodation costs would change as a result of increasing or reducing the number of jumpers within an exchange.⁶³

- 5.22 Indeed Openreach said that the incremental frame cost resulting from changes in the numbers of jumpers would be zero (although Ofcom disagreed with this):

On operating costs Openreach told us that the introduction of SJ-MPF would not lead to any incremental costs savings on frame maintenance⁶⁴

⁶² SJ-MPF Dispute Final Determination §4.108

⁶³ SJ-MPF Dispute Final Determination §4.122

⁶⁴ SJ-MPF Dispute Final Determination §4.115

5.23 It seems clear that a low proportion of the frames capital cost is incremental to changes in jumper volumes (and almost certainly less than the 72% Ofcom may have assumed). TalkTalk does not have the breakdown of the frames current cost that would allow us to determine the incremental frame current cost resulting from a relatively small change in the use of the frame. We recommend that Ofcom carries out this analysis or uses its judgement to estimate the likely level recognising that Openreach claims the incremental cost is zero. A figure in the 20% to 30% range seems plausible.

5.24 These comments with regard to the impact of additional jumpers on the frame costs are in addition to the comments above (section 3.2) that the efficient cost of providing MPF is on the basis of single jumpering (on the basis that Openreach would have introduced single jumpering several years ago if it had been acting in an efficient fashion) and the prices of MPF should be based on this assumption.

5.9 WLR engineering migrations

5.25 The normal on-going operation of the PSTN/TDM network (for WLR) will involve some migration of WLR lines that will involve re-jumpering on the MDF. For instance, if a BT PSTN switch needs replacing then the lines will need to be migrated from the old switch to the new PSTN switch or MSAN (i.e. manual jumpering will be needed). This cost is an incremental cost for WLR and therefore should be included in the cost differential analysis (and assigned to WLR).

5.10 Summary

5.26 As we explain above, we consider that there are a number of changes that Ofcom should make to its estimates of the incremental cost difference between MPF and either WLR, or WLR+SMPF (Ofcom presented two sets of figures). In the table below we present Ofcom's two estimates and TalkTalk's estimates which take into account the various points above.

Incremental cost differences

Comparison	Ofcom initial	Ofcom adjusted	Ofcom range	TalkTalk view
WLR vs MPF	-£3.11	+£1.40	-£3 to +£2	+£3 to +£4
WLR+SMPF vs MPF	+£0.24	+£3.31	+£0 to +£4	+£5 to +£6

6 Price adjustment

6.1 Based on its estimates of the incremental costs Ofcom estimates that the cost differences between MPF and WLR/ WLR+SMPF are as follows.

Incremental costs differences

Comparison	Ofcom range
WLR vs MPF	-£3 to +£2
WLR+SMPF vs MPF	+£0 to +£4

Source: Ofcom, §7.65 and §

- 6.2 If common costs were recovered equally from MPF rental and WLR rental, the price differences in 2016/17 would equal the incremental cost differences. This would give the following prices. This table is based on a £2 incremental cost difference which is the middle of Ofcom's range and the figure that Ofcom uses itself (e.g. at §1.10, §8.64.2)

Implied prices (prices aligned to incremental cost differences)

Comparison	Current price (Dec 2013)	16/17 prices based on cost differences
MPF	£84.26	£91.20
WLR	£93.27	£90.20
SMPF	£9.75	£3.00
WLR+SMPF vs MPF	+£18.76	+£2.00

If prices were set in this way it would represent a precipitous change in Ofcom's policy approach even over the course of just two years since the LLU Charge Control of March 2012, leading to a dramatic change in absolute prices and price differences. In the March 2012 LLU/WLR Charge Control Ofcom:

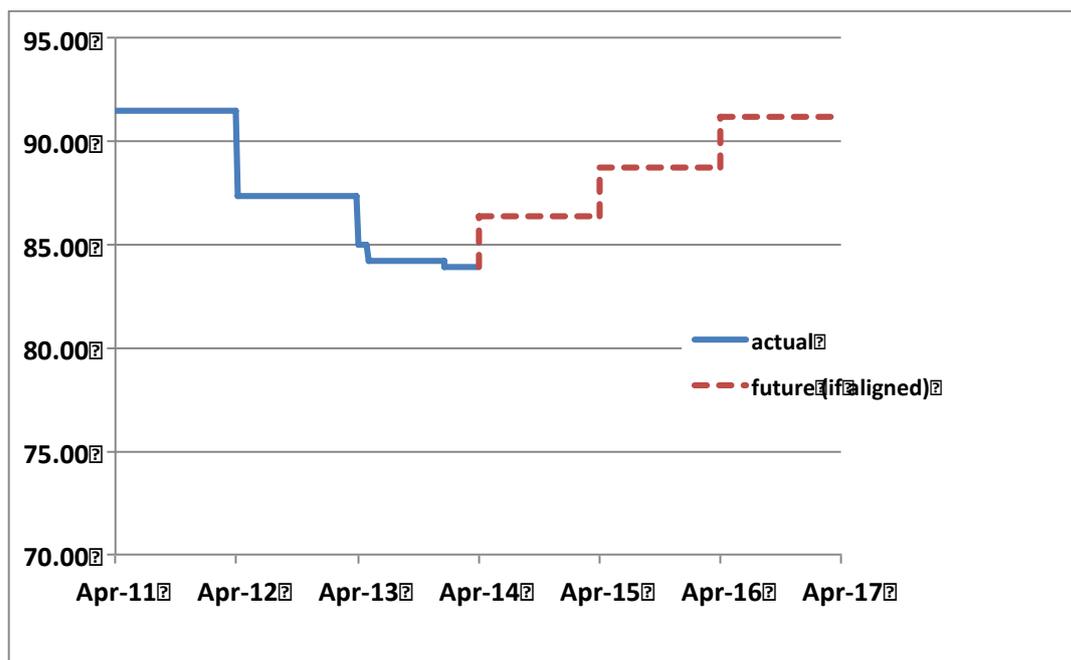
- estimated that the WLR+SMPF versus MPF cost difference was £10 to £14
- set the price difference (in the last year of the charge control) at £19

- 6.3 If prices were now aligned with the costs currently estimated it would result in a sharp reduction in cost and price differences:

- the cost difference would be reduced from £10 - £14 to £2
- the price difference would be reduced from £19 to £2

- 6.4 The impact of this would be a large increase in the MPF rental price from £84 to £91, having reduced in the previous period from £91.50 in March 2012 to £84 in March 2014. In other words there would be a sharp reversal of the price trend from a reduction of £3 a year to an increase of £2 a year.

MPF rental price (actual and forecast under no price adjustment)



- 6.5 As late as the July 2013 Consultation, the estimated cost difference was around £10 and the MPF price was estimated at £83.50.
- 6.6 Such a change in approach, with little signposting in advance, in an industry where downstream operators are undertaking investments with lives of many years, would seriously undermine regulatory certainty. We expand below on the detrimental impact of aligning prices with costs in this charge control. In the following section we then explain why we believe that there is sound economic logic for setting the price difference above the cost difference.

6.1 Impact of aligning prices with cost difference

- 6.7 Regulatory stability is key to both investment and dynamic efficiency, since if regulatory certainty is reduced, perceived risk increases and this tends to deter efficient investments and/or raise the cost of capital of firms in the regulated sector. This is the reason why regulators tend to look to maintain stability in the regulatory regime since it is rightly considered to be more conducive to investment than a capricious or inconsistent approach.
- 6.8 We agree with Ofcom that a dramatic change in regulatory policy, as represented by full cost alignment in the current review period, would significantly harm regulatory certainty (by undermining stability and predictability) and thus reduce future investment and dynamic efficiency (§8.63) and harm consumers' interests. In particular, confidence in the regulatory regime will reduce if rapidly falling prices in one regulatory period are followed by large price increases in the next regulatory period.

- 6.9 From TalkTalk's perspective we consider that moving to full price / cost alignment in this charge control would undermine regulatory certainty. In the last year, TalkTalk has made invested about £350m [X]. The key investments have been:
- TalkTalk's large triple play investment. In FY2014 TalkTalk's total investment in SACs and marketing will be around £350m;
 - [X];
 - Unbundling 300 new exchanges.
- 6.10 We describe the nature of these investments and how they depend on absolute wholesale prices and wholesale price differentials below.
- 6.11 Investments in customer acquisition costs. TalkTalk has invested heavily in customer acquisition over the past few years. Such costs include the costs of marketing, routers, set top boxes, MPF New Provide, and introductory discounts. Depending upon the product, such costs can be substantial; for example, TalkTalk's planned SAC for FY14 for a customer taking Essentials TV + fibre is approximately [X]:
- [X];
 - [X].
- 6.12 Investments in unbundling – over the past decade, TalkTalk has made major investments in unbundling exchanges. [X]. [X] the long asset lifetimes associated with investments in unbundling mean that there remain significant undepreciated assets and a precipitous change in the MPF/ WLR + SMPF differential will leave some of these assets stranded.⁶⁵ The commercial viability and benefits of unbundling exchanges depend upon:
- [X]⁶⁶ [X];
 - the incremental volume of new customers acquired from unbundling, and the margin on these customers, which depends on [X].
- 6.13 It is important to note that, as set out by Ofcom at Figure 8.1, TalkTalk could not have predicted a narrowing of the price difference between MPF and WLR + SMPF from £19 to £2 in the current review or a price increase of £2 a year following a price fall of £3 per year. The £19 price difference reflected the estimated incremental cost difference of £10 to £14 and a price adjustment (implemented through TAM cost sharing). It was not clear that these would change so dramatically:
- There has been a sharp reduction in the estimated incremental cost difference:
 - the estimated PSTN line card cost has reduced by £3.50
 - the estimated MPF TAM/testing cost has increased by £4
 - there has been an increase of £2 in the estimated cost of MPF faults and SLA (versus WLR+SMPF)

⁶⁵ TalkTalk depreciates investments in exchange unbundling over a seven year period.

⁶⁶ [X]

- There was no indication that the TAM pricing adjustment would be fully removed in this charge control. Even in the appeal of the 2012 LLU charge control Ofcom did not say it would remove this adjustment in the subsequent review but rather than it would be removed in the ‘long term’

6.14 Such changes (in the price differences and the MPF price) were neither pre-figured nor foreseeable.

6.15 Therefore, in summary we think Ofcom is right to adopt the approach it has proposed. [3<].

6.2 Reason for price difference above incremental cost difference

6.16 TalkTalk outlined in its previous submission, at §§2.3-2.14, that there is a sound economic case (aside of the regulatory certainty issues discussed above) for setting the price difference between MPF and WLR above the incremental cost difference, or, at least, where there was uncertainty over estimates of the incremental cost difference, selecting a value at or towards the top end of the range due to the asymmetry of harm. Setting the price difference above the incremental cost difference would have the impact of recovering more common cost from WLR than MPF, although both products would continue to cover their incremental costs and contribute towards common costs.

6.17 The key arguments for this position were that:

- even if productive efficiency is maximised by setting price differences in line with incremental cost, setting the MPF/ WLR + SMPF price difference greater than incremental cost differential will improve dynamic efficiency, since MPF offers a deeper form of downstream competition than WLR;
- overall demand can be increased by recovering more common costs from WLR than from MPF, due to differential elasticities of demand;
- Ofcom should in any case ‘aim up’, since the harm from setting the price difference too low is greater than the harm from setting the price difference too high;

6.18 Ofcom responded to these arguments in its response. However, we do not consider that some of Ofcom’s counterpoints are valid.

6.19 In respect of dynamic efficiency (aside of the regulatory certainty point), TalkTalk argued that MPF allowed a deeper form of downstream competition than WLR+SMPF (since competitor CPs provided more of the network themselves). Ofcom seem to have dismissed this argument (see §8.47) since (a) MPF operators are established and (b) there are commercial reasons for CPs to choose using MPF over WLR+SMPF since it allows for instance, more control over innovation and therefore by setting prices based on incremental cost differences it will encourage competition on the merits.

- 6.20 Ofcom appears to have missed the point that we were making. Put simply it is that all else equal, deeper competition provides greater consumer benefits through reducing the extent of the value chain subject to BT's monopoly power. This will tend to benefit customers in all of the ways which would be expected when a previous monopoly is opened to competition— in particular, through undermining the monopolist's pricing power and the usual low quality of service provided by a monopoly. The benefits will include competitive pressure to reduce costs in the part of the value chain exposed to competition, more price innovation (due to fixed costs allowing different pricing structures), more product and feature innovation and more competitive investment. Even if the effect is only across a small part of the value chain, it will still tend to lead to consumer benefit gains compared to leaving the full scope of monopoly in place.
- 6.21 As such, Ofcom should, where possible, tend to encourage deeper competition, rather than shallower. In other words, even if the two models of competition had exactly the same cost Ofcom should prefer the deeper one since it delivers more consumer benefits. By setting prices to reflect incremental cost differences Ofcom is implying it is indifferent to the two forms of competition (whereas in fact it should not be).

7 Ancillary services

- 7.1 Ofcom has made a number of changes to the basket design and charge controls. In general these are very welcome. For instance, Ofcom has split the Co-mingling Ancillary basket (which included tie cables as well as co-mingling) into a Tie Cable basket and a Co-Mingling Rental and New Provide basket. This reduces the level of heterogeneity in baskets (with respect to internal versus external use and/or competitive intensity) and so decreases the potential for gaming, for instance, by lowering charges on products mainly used by BT Retail, and increasing them on products mainly used by BT's downstream competitors.
- 7.2 We make a number of comments on the new basket design (and consequent charge controls) below.

7.1 Basket structure and controls

- 7.3 We have a number of comments on the approach:
- we agree with the six basket structure for ancillary services;
 - we think that it is preferable that SMPF New Provide prices are set on the basis of LRIC (rather than FAC);
 - we consider that the proposed approach to address the issue regarding the price differential between MPF New Provide and MPF SLP/WLTO does not address the fundamental problem;

- Ofcom should ensure that the mismatch in the accrual approach for co-mingling (i.e., that the upfront cost is recovered in one-off connection charge but capitalised and depreciated in RFS) does not lead to over-recovery;
- we agree with automatic repayment in the case that basket revenues are above the allowed level.

7.4 TalkTalk believes that a six basket structure is broadly appropriate for the forthcoming charge control. In particular, we consider that Ofcom’s move to split co-mingling and tie cables into separate baskets is imperative, and indeed should have been undertaken some time ago. This is an approach which TalkTalk has been arguing in favour of for a considerable time.

7.5 It is unclear to TalkTalk why Ofcom proposes, at §6.53, to set SMPF New Provide at FAC, when all other New Provide products and Migration products are set at LRIC. We believe that this has the potential to distort choices between products, and so lower consumer welfare. This can be seen by reference to the theory of the second best: setting a single product (SMPF New Provide) at FAC, when WLR New Provide and MPF New Provide are set at LRIC, is liable to distort behaviour more than if all of the New Provide products are set in the same way.⁶⁷ Therefore, as a matter of principle, we believe that this cost (as with all other New Provide and Migration products) should be set at incremental cost. However, on the basis of pragmatism it is probably reasonable.

7.6 BT identified that the previous proposals could lead to a (small) reduction in the price differential between MPF SLP / MPF WLTO⁶⁸ and MPF New Provide. Ofcom’s response to this is to create a new basket that includes all three products (at §6.69): MPF SLP; MPF WLTO and MPF New Provide, which will allow BT to ‘rebalance’ the prices. We are unsure that this change is wise for two reasons:

- Ofcom’s approach does not address the fundamental misalignment of prices and costs. The fundamental problem with these products’ prices is that most of the cost of an engineer visit is recovered via the rental charge (not via the provision charge e.g. MPF New Provide). Whilst this persists there will always be a problem with prices being misaligned with cost resulting in inefficient behaviour.
- Because of this misalignment the new basket approach might allow BT to distort charges in the basket to artificially discourage the use of New Provide (where it makes a marginal loss), and provide barriers to competition.

7.7 It is also important for Ofcom to ensure that if co-mingling up front costs are fully recovered in wholesale connection charges, these costs should not also be capitalised in the RFS and recovered in rental charges after a change in allocation approach. BT has previously attempted to (or been able to) make windfall gains from changes in accounting policy, by having the same costs remunerated twice. If

⁶⁷ Lipsey, R. and K. Lancaster (1957), *The General Theory of Second Best*, Review of Economic Studies 24(1), pp. 11-32

⁶⁸ MPF SLP – MPF stopped line provide. MPF WLTO – MPF working line takeover

there is a change in accounting treatment, Ofcom should be careful that it does not lead to double recovery, and that no further co-mingling assets are added into the RAV.

- 7.8 In respect of the LLU ancillary basket we note that BT has been unable to provide accurate cost /revenue information and so Ofcom has based the X solely on the efficient gain which is not ideal. [X] it is important that BT does not gain from its inability to provide cost information since doing so would create a moral hazard.

7.2 Preventing gaming

- 7.9 For products in a basket there are a number of forms of gaming that BT can engage in which are anti-competitive yet comply with the letter of the charge control. For example, BT could:

- [X];
- [X]; or,
- [X].

- 7.10 Ofcom's implicit approach to tackle this risk is:

- using narrower and more homogeneous baskets [X];
- a range of price alignment obligations for similar products (i.e. for SMPF and MPF versions); and,
- imposing a sub-cap, although Ofcom has proposed a relatively looser sub-cap than was previously proposed – at $CPI - X + 7.5\%$ versus $CPI - X + 5\%$ previously.

- 7.11 Ofcom has not imposed cost orientation obligations; these were previously so lax (since they were based on DSAC costs) that they were of limited benefit.

- 7.12 Whilst this overall approach is welcome and should help reduce a number of potential forms of gaming, it is not sufficient fully to prevent gaming. For example, the sub-cap does not prevent gaming by BT, but rather merely slows down BT's ability to game the system – we note that Ofcom offers no positive case that a sub-cap is an effective constraint to prevent excessive individual product prices⁶⁹.

- 7.13 In light of Ofcom's proposal, we consider that a simple light touch reporting obligation would be helpful. This would not be an additional hard constraint on prices but rather reporting requirements that will help reveal if BT is gaming the system to abuse the flexibility a basket affords it. We see three metrics that would be useful in identifying whether potentially anti-competitive behaviour is occurring:

⁶⁹ Ofcom have rightly not repeated their previous flawed analysis which set out that (a) prices below DSAC are not excessive (which is an unjustified presumption) and (b) that the previous sub-cap avoided individual prices rising above DSAC (which was plainly wrong)

- the average change in prices of products ‘purchased’ internally versus products sold externally⁷⁰;
- the average basket price change based on the current year weighting by product revenue (the control is based on prior year weights);
- the proportionate mark-ups on different products⁷¹.

7.14 Reporting would provide *indications* of whether BT is gaming the flexibility or not. This could provide evidence for tighter (or looser) constraints to be imposed in the next charge control.

8 Enhanced services price regulation

8.1 TalkTalk explained in its previous submissions that it considered that there was a compelling case for enhanced services (i.e., faster than standard provision and repair) to be price regulated⁷². The key reasons for this were that:

- BT has SMP in the provision of these services and the services are not contestable;
- the current pricing was excessive and inefficient: prices were 4-10 times incremental cost and the very high implied common recovery was not offset by lower recovery elsewhere, contributing to BT over-recovering its costs of access products;
- cost reflective enhanced service prices will allow the market to identify the quality level it demands and so minimum service standards to be set appropriately.

8.2 We noted that Ofcom has previously stated that if prices were not constrained then it would consider imposing a charge control.

Nevertheless we think basket control would be a credible option for enhanced care services in the event that other options are found to provide insufficient constraint on price behaviour⁷³.

8.3 Though Ofcom has not responded to TalkTalk’s suggestion that enhanced services should be price regulated it has explained (at §6.45) why it considered that expedite provision (which is one enhanced service) should not be price regulated. Ofcom’s position comprises a number of elements:

- tighter regulation of quality of service is expected by Ofcom to increase the constraint posed by standard services on expedited services;

⁷⁰ could also be done for and more competitive and less competitive markets. However, this will be more difficult since the it would require market share analysis

⁷¹ The mark-up could be price / LRIC – 1

⁷² TalkTalk (2013), *Price regulation of enhanced services*, December. TalkTalk suggested that the most appropriate form of price regulation would be a cost orientation obligation at LRIC differentials.

⁷³ LLU Charge Control Consultation Mar 2011 §4.158

- the charge controls on standard MPF New Provide, SMPF New Provide and WLR Connection are likely to pose an effective competitive constraint on the charges for the Expedite versions;
- there is no cost information available for the cost of providing Expedite connections, since the main cost is an opportunity cost;
- the expedite connection services will be subject to standard SMP remedies, such as price notification, no undue discrimination, and fair and reasonable access.

8.4 TalkTalk considers that these points are either irrelevant, incorrect, or both in respect of expedite service specifically. We think they are equally or more irrelevant and incorrect in respect of other enhanced service. Taking Ofcom's four points in order:

8.5 First, Ofcom is correct that a higher quality of service for standard services will reduce willingness to pay for expedite services, and that *ceteris paribus*, that will shift the demand curve inwards, and lower the profit-maximising price for BT's enhanced services. However, this increase in constraint is very small and will not come close to eliminating BT's incentives to price at or near the full monopoly price⁷⁴.

8.6 Second, TalkTalk does not consider that the charge controls on MPF New Provide, SMPF New Provide, and WLR Standard Connection will provide an effective competitive constraint on enhanced services⁷⁵. We do not consider that there would be a sufficiently high cross-elasticity of demand between standard and enhanced services to restrain BT from exercising its monopoly power. Indeed, given the extraordinarily high prices for enhanced provision at present, it appears that there is clear empirical evidence that there has been no such constraint, and that BT is effectively setting the price at or above the full monopoly level.

8.7 Third, Ofcom's point regarding its inability to observe BT's cost of enhanced services is of limited relevance since the cost is very low and/or can in fact be derived.

8.8 In the case of expedite services it is important to recognise that these services are not guaranteed in the sense that if Openreach does not deliver them to the

⁷⁴ For strategic reasons, BT may choose to price enhanced services above the monopoly level, even where Openreach's profits are lowered from doing so. If BT Retail has no intention of using enhanced services at the monopoly price, then the sole potential users of enhanced services will be BT Retail's downstream competitors. BT may have strategic incentives to harm these competitors' commercial strategies, even where doing so involves a profit sacrifice by Openreach, as long as the gain to Retail is sufficient. Ofcom does not appear to have assessed such strategic vertical abuse of BT's dominant position at all.

Moreover, at the same time, the incremental cost of providing enhanced service compared to standard will reduce, which implies that *ceteris paribus*, supernormal profits will increase for the same price, relative to a counterfactual where customers take standard services. As such, even at the same price level, the incremental profitability of enhanced services would be expected to increase.

⁷⁵ i.e. standard provision services will not constrain the price of expedite provision and standard care levels will not constrain the

accelerated timescale they do not pay any penalty/SLG (and they do not collect the additional charge). Therefore, the cost of providing this service will be low since Openreach can opt to only provide the service when there is spare resource that has no (or very low) opportunity cost. In any case, the maximum cost that Openreach would rationally incur will always be less than the charge it levies⁷⁶.

- 8.9 In any case, the costs can be derived. Ofcom has already derived the cost of higher repair care levels (since it needed to do this to set the LLU and WLR charges). We would anticipate that the DES model could also be used to derive the costs of faster (expedited) provisions and expedited repair. Given that Ofcom has previously been able to make estimates of the costs of these services and Ofcom has more data available to it (and substantial information gathering powers) then it should be able to make reasonably robust cost estimates.
- 8.10 Lastly, we note two further points regarding the cost of enhanced services:
- if Ofcom declines to regulate and constrain prices on the basis that BT's cost information is unreliable, it creates a moral hazard whereby they will avoid gathering accurate cost information as a means of avoiding regulation;
 - Ofcom could allow relatively high prices (e.g. above FAC) but by regulating it would eliminate the double recovery of costs that the current regime allows. Thus if Ofcom is uncertain of the costs the appropriate approach could be to set prices above estimated costs thereby preventing double recovery.
- 8.11 Fourth, we do not believe that the fair and reasonable obligation will be an effective constraint on BT's prices:
- CPs lack the cost data to be able to properly mount a dispute against BT's pricing;
 - as far as we are aware the fair and reasonable obligation has never been used successfully to constrain BT's prices;
 - even if the fair and reasonable obligation could be used by CPs, it may provide BT with wide discretion allowing it to set prices substantially above LRIC or FAC. When the fair and reasonable obligation was used to resolve a dispute

⁷⁶ This necessarily follows from the manner in which expedite provision is undertaken at present. If an expedite provision is ordered, and BT fails to meet the expedited timetable, BT does not have to pay a penalty to the customer whose demands have not been met; rather, BT can just deliver on the basis of the standard service, and only charge the standard amount. BT is therefore effectively provided with a free option at the time when the expedited order is made. If it is busy, it can simply ignore the expedited order, deliver the standard service level, and incur zero incremental costs. On the other hand, if BT has spare capacity, and would in any case be able to undertake expedited orders within the appropriate timescale, it can do so and enjoy the resultant increase in revenue. This real option truncates the distribution of cost to BT, such that the opportunity cost of expedite provision can never be in excess of the price for expedite provision. If Ofcom sets a lower price for expedite provision, the opportunity cost of expedite provision will therefore fall so as to remain below the price. As Ofcom sets a price increment close to zero, the opportunity cost therefore falls commensurately, and itself reduces to be close to zero, but below the price. It is only if Ofcom chooses to make expedite provisioning a guaranteed service— implying that BT pays penalties for failing to meet the expedite timescales— that BT's cost is of any particular importance.

regarding the level of service level guarantees (SLGs), Ofcom concluded that Ofcom's role was to decide the SLG offered by Openreach was within a wide range of plausible SLGs⁷⁷. This thereby gave BT wide discretion to set an SLG. If the same framework was used to resolve a dispute regarding the price, it is likely that this would allow BT to, for instance, select the cost standard and the assumptions used. Conversely, if prices are set through ex ante regulation then Ofcom (not BT) can choose appropriate standards and assumptions to best meet consumers' interests;

- the dispute resolution approach will absorb a large amount of Ofcom's and stakeholders' time compared to the amount of time required to resolve this same issue within the market review / charge control process;
- bringing a case to dispute will take months, during which BT will be able to continue to overcharge CPs.

8.12 Ofcom's approach of not introducing price regulation for enhanced services appears to be out of line with the approach which it proposes to adopt on other areas such as electricity, TRCs and SFIs (where it has imposed or tightened price regulation⁷⁸). In all these areas, Ofcom properly addressed the question of the need for price regulation, grappled with the lack of robust cost data, and has then come to a pro-consumer conclusion on the prices which BT would be allowed to charge. We consider that the case for price regulation of enhanced services is as strong as the case for price regulation of electricity, TRC and SFI. Further, we consider that it is unlikely to be more difficult to determine the appropriate charges for enhanced services than it is proving to be for SFI/ TRC. Such costs will only need to be determined on the basis of the incremental cost over standard provisioning.

8.13 Even if it were more difficult to undertake precise cost analysis at present, we consider that the current regulatory review would be well-placed to put into effect a data collection and monitoring obligation which would allow future regulatory reviews to deal with the issue more thoroughly. Ofcom presently makes no such proposals.

9 Other charge control points

9.0 CLI

9.1 Ofcom considers charging for caller line identification (CLI) (alternatively called "Caller Display") at §§6.128 *et seq.* of its consultation document.

⁷⁷ §§44.18 – 4.24 Dispute between TalkTalk Telecom Group PLC and Openreach relating to whether Openreach offered MPF New Provide to TalkTalk on fair and reasonable terms and conditions 15 August 2013

⁷⁸ Electricity has gone from cost orientation at DSAC (i.e. very lax) to cost orientation at FAC and TRC and SFI have gone from cost orientation at DSAC to charge control at FAC.

- 9.2 The CLI charges set by BT are currently in excess of Ofcom's estimate of FAC— that is, they include both full coverage of incremental costs and common costs, and then a substantial mark-up on top of FAC (Ofcom estimates that the caller display charge in 2011/12 would have to have been £2.50-£3.50 to cover FAC, well below the £6 charged by BT). This reflects a BT policy to attempt to restrict demand, given that BT considers that there are capacity constraints.
- 9.3 Ofcom proposes for 'policy' reasons, to amend this, so that not only will BT's margin over FAC be removed, but common costs will also be recovered from other charges, so that the CLI charge will in future only recover the LRIC cost (which Ofcom estimates at £0.45).
- 9.4 We have a number of comments on Ofcom's proposal to shift from FAC+ recovery to LRIC recovery for CLI charging.
- We believe that it is uncontroversial, and unambiguously welfare enhancing, for Ofcom to compel BT to reduce the CLI charge to be no higher than the FAC of providing the service.
 - We consider that Ofcom's rationale for setting the CLI charge at LRIC rather than FAC is weak. Ofcom gives two reasons for using LRIC rather than FAC. Firstly, that it will enhance productive efficiency between WLR and MPF to set the charge in this way, as it will promote competition on the merits; and, secondly, that it will promote allocative efficiency by promoting an efficient choice by consumers as to whether to take caller display and so avoid nuisance calls. The first of these points is fundamentally flawed. By setting a charge below FAC, common costs will have to be recovered from some other products. The charges for these products will therefore have to be set further above LRIC, and potentially above FAC, reducing productive efficiency for those products. Ofcom has not shown that the gains in productive efficiency from moving CLI charges closer to LRIC are greater than the loss in productive efficiency from moving other charges away from LRIC. Ofcom's case on allocative efficiency benefits of decreasing CLI charges below FAC rests on the key proviso that "*Provided consumers are fully informed about the potential benefits of Caller Display in helping to deal with nuisance calls...*". Ofcom has presented no evidence that customers are fully informed about the benefits of caller display, so there is no evidential base to demonstrate that its proposals will lead to gains in allocative efficiency.
 - We consider that it would be more appropriate to amend the charge via a glidepath. While it would appear acceptable to make an immediate adjustment in the CLI charge to bring it in line with FAC, we consider that any adjustment between FAC and LRIC should be via a glidepath.
 - We consider that any common costs previously recovered from CLI charging (but which are no longer recovered following a move to LRIC pricing) should be recovered solely from WLR, and no part of them should be recovered from MPF. This will maintain the same distribution of common costs across regulated products (as BT only provides CLI on WLR lines). Adopting any other approach would be a breach of the principle of cost causality, as there has

been no change in underlying cost drivers due to this change in regulatory policy.

- BT's argument that it needs to suppress demand by increasing prices appears to us to be clear evidence of monopolistic behaviour. It seems that BT has sought to charge above FAC, restricting demand, for spurious reasons, and has not properly considered the costs of investing in increased capacity.

9.1 Interim pricing arrangements

9.5 TalkTalk is aware that there will need to be interim pricing arrangements put in place to cover the period between the expiry of the current charge control, on 31 March 2014, and the new charge control coming into effect at some point later in the year. We do not comment here on the interim pricing structure.

9.6 However, we do believe that Ofcom should in this charge control set out some form of roll-over provision which sets out (in the absence of Ofcom taking an alternative decision) how the charge control should be continued if the next review once again fails to be completed on time. Such a provision could be that for instance, the prices in the year following end of the charge control will be set using the same X or prices will remain same. Given that there have been significant interim periods in the last two LLU/WLR Charge Controls, it must be considered at least a possibility that there may be a delay in completing the next regulatory review. Such a roll-over provision would add to regulatory certainty for all parties, and may also reduce gaming of the regulatory system by one or more stakeholders who feel that they can gain from delay.

9.2 Volume projections

9.7 We note from BT's recent quarterly report⁷⁹ that MPF+WLR line volumes have increased in the last quarter by 72,000 (an annualised growth rate of 1.1%). These up to date figures should be reflected in Ofcom's volume estimates – Ofcom estimates the growth rate from 2013/14 to 2016/17 at 0.6% per annum.

10 Quality of service

10.1 In this section we discuss a number of aspects of Ofcom's new and revised proposals for minimum service standards.

10.1 Level of the minimum service standard

10.2 Ofcom has proposed to set the minimum service standard to be roughly equal to the current SLA (e.g. 13 day provision, the proportionate rate of provisions within SLA similar to recent levels). TalkTalk agree with not increasing the minimum service

⁷⁹ plc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q314-KPIs.pdf

standard above the SLA since it will increase prices, potentially to a level that consumers find difficult to afford.

- 10.3 However, it is important to clarify that TalkTalk's support is certainly not because we feel that the current SLAs are the outcome of a balanced and fair negotiation. We consider that the SLAs that are currently in place were effectively imposed by BT on the basis that they were the minimum level which BT considered that it could 'get away with'. We also do not consider that the current SLAs are set in the interests of consumers. Rather, in line with TalkTalk's comments cited by Ofcom at §3.11, setting the minimum standard above the current SLA is obviously in consumers' interests as long as those consumers are willing to bear the added cost of the higher quality.
- 10.4 That BT will have the ability to impose whatever SLA it likes, without regard to the views of TalkTalk and Sky, can be seen through an analysis of the relative bargaining power of BT and other CPs, based on their fallback positions if negotiations fail (known in the literature as the "disagreement points"). In this case, based purely on negotiations between BT and other CPs, BT's disagreement point is preferable, from BT's perspective, to reaching an agreement, in that no SLAs are put in place, and BT Openreach is therefore able to offer a lower quality of service to its customers without paying compensation.
- 10.5 It can readily be seen that in most bargaining games or solutions (such as the Nash bargaining solution or an amended form of the Rubinstein bargaining game), where a party to the bargaining prefers the threat point to any potential outcome of the game, it will have no incentive to reach an agreement.⁸⁰ Furthermore, the bargaining is further tilted in BT's direction by the fact that, unlike in the Rubinstein game, there is no process of alternating offers being made; rather, BT is the sole actor able to propose SLA. It is trivial to determine that, even if BT had some incentives to reach an acceptable bargain, such a process of being the sole agent able to make offers would further strengthen its bargaining power. Furthermore, the fact that BT will prefer the threat position to a negotiated settlement provides very strong incentives for BT to delay reaching any agreement, stretching negotiations out as far as possible.
- 10.6 In fact, the sole factor tending to push BT towards offering any SLA at all is the presence of Ofcom, and the prospect that if an agreement is not reached, Ofcom may choose to impose its own solution, which may be more intrusive than whatever BT deems it appropriate to give up during "negotiations". The SLAs which BT agrees to are therefore independent of what other CPs want— they depend solely upon what BT wants, and BT's view of the minimum solution which Ofcom will accept. This situation is not helped by Ofcom's reticence in a dispute to override the terms of the contract, and tendency to allow BT a very wide degree of latitude when it determines what is reasonable.

⁸⁰ See Nash, J. (1953), *Two person co-operative games*, *Econometrica* 21, pp. 128-140 and Rubinstein, A. (1982), *Perfect equilibrium in a bargaining model*, *Econometrica* 50, pp. 97-110

- 10.7 As well as having few incentives to reach agreement, even where there is some movement towards a solution, this movement reflects the laziness inherent in protected monopolies like BT in areas where they are not subject to vigorous regulation. The ‘glass ceiling’ analysis undertaken by BT (see §3.41) amply demonstrates this. This analysis seeks to show that there is a maximum service level which it is extremely difficult for BT to surpass. By even undertaking analysis like this, BT is adopting a defeatist attitude from the outset. It is astonishing that BT is claiming that it is now impossible for Openreach to achieve a quality of service that it was able to meet on a sustained basis only a few years ago (§3.46). Ofcom should reject outright such absurd, self-serving drivel.
- 10.8 BT is propagating such rubbish because it is unwilling or unable to countenance fundamental changes to its procedures, training and staffing. For example, Openreach estimates that 5.42% of faults could not be addressed because of a CP fault, including the customer being unavailable.⁸¹ If, rather than giving a non-specific timeslot with a duration of many hours, Openreach made an appointment in a thirty-minute window, TalkTalk expects that there would be fewer cases where a customer is unavailable; Openreach could provide more evening appointments [3<], which we also envisage would reduce this cause of unaddressed faults. This figure is therefore partially controllable by Openreach. Similarly, 5.22% of faults are unable to be dealt with because a specialist skill is required. BT could overcome this by changing its skills mix. It may be that excessive unionisation is preventing more flexible working patterns.
- 10.9 Furthermore, even if Openreach could not control all of the factors which it has identified as leading to failure to complete a job “on the day” (and it can control a substantial proportion of them), whether or not a job can be completed on the day is not relevant for either WLR nor MPF, as CL1 and CL2 do not require a job to be completed in the same day. This is a further reason for the profound irrelevance of Openreach’s submissions.

10.2 Regional minimum service standards

- 10.10 At §3.25, Ofcom sets out that it proposes to set minimum service standards in each of BT’s nine GM regions plus Northern Ireland. TalkTalk considers that this is an acceptable approach. However, we believe that it is important that regional variations are not overly large; we therefore think that they should be limited to no more than +/- 2%. However, while accepting a region-by-region approach, we consider that it would be both simpler and clearer to have the same target in all regions.

10.3 Adjustment for MBORC

- 10.11 At §3.90, Ofcom states that “In the July 2013 FAMR Consultation we considered whether faults and provisioning orders affected by Openreach’s force majeure, or

⁸¹ Openreach response, Figure 18.

MBORC, declarations should be included or excluded from the minimum standard". This statement equates MBORC and force majeure. MBORCs are in no sense matters beyond Openreach's control. Rather, they in many cases are an aspect of BT's commercial policy, designed to avoid paying SLGs and to relieve regulatory pressure and political pressure around Openreach's incompetent performance. Despite Ofcom's comment at §3.97 that there is no clear evidence that MBORCs have been used tactically, we continue to believe that they have been, and note that Ofcom's statement allows for there being circumstantial evidence that they have been used tactically, and does nothing to demonstrate that they have not been used tactically. We continue to believe that MBORCs are primarily a way for BT to escape its obligations of making SLA payments for poor performance.

- 10.12 Another sign of BT's abuse is its use of provisioning MBORCs after informally committing that it would only resort to using these *in extremis* – recently it has declared these in most areas where it has declared a repair MBORC, and there are also provisioning MBORCs in some places where there are no repair MBORCs. This reinforces the need to make the minimum service standards independent of whether Openreach declare an MBORC or not and also the need to scrutinise the use of MBORCs to avoid SLGs.
- 10.13 We do not consider that there is much independent importance in MBORCs, and Ofcom should not unduly concern itself with the precise MBORC allowance. What matters for CPs is the overall target which is set for BT, rather than how it is divided between the base target and the MBORC allowance; and how much Ofcom estimates it will cost to achieve that target. If adverse weather really becomes more frequent over the next control period (and, notwithstanding BT's protestations, TalkTalk considers that any impact from climate change is likely to be miniscule), then BT's costs of offering the appropriate quality of service will increase, and Ofcom will be able to take this into account at the next charge control review.
- 10.14 Notwithstanding this, we believe that Ofcom has made an error in calculating the MBORC allowance. Table 3.3 shows the proportion of repairs which were affected by MBORC. At §3.101, Ofcom then uses these data to derive an MBORC allowance. Ofcom first calculates a figure of 2.5%, then (inappropriately in our view) rounds this up to 3%.
- 10.15 However, this is 3% of the total of all repairs. As Openreach is targeted with achieving 80% satisfaction of the SLA in the final year, the MBORC allowance should be calculated as 3% of this 80%, or 2.4%. The remaining 0.6% of MBORCs should be absorbed by BT's 20% allowance for missing SLAs. In previous years, the MBORC allowance should be lower, commensurate with the lower overall target for repair completion. In the first year, if Ofcom takes the mid-point of its range (70%), then the MBORC allowance should be 2.1% (=3% x 70%).
- 10.16 As such, we consider that the targets faced by BT as part of their minimum service standards should be increased by 0.9% in the first year of the control, trending down to 0.6% in the final year of the control.

10.4 Scope of minimum service standards

- 10.17 While we welcome the minimum service standards which are proposed by Ofcom, we believe that they could and should go further to encompass a greater range of services in which Openreach is offering inadequate performance.
- 10.18 We believe that there should be an additional minimum service standard which reflects the overall fault rate on the network (not including faults within customers' premises or in equipment belonging to CPs other than BT). A minimum service standard in this area would significantly improve BT's incentives to carry out an efficient level of protective maintenance, so as to limit the number of faults which occur and reflect the significant harm to customers that results from a fault occurring⁸² (as well as the additional harm that occurs if it takes a long time for the fault to be repaired).⁸³
- 10.19 In its consultation document, Ofcom has provided no reason why there should not be a minimum service standard for the fault rate. We believe that if Ofcom is minded not to set a minimum service standard for faults, it should set out its rationale for this omission.
- 10.20 Finally, although we welcome the minimum service standards proposed by Ofcom, we note that there are no standards which are relevant to service levels 3 and 4. We believe that Ofcom should consider whether it would be appropriate to introduce some standards, backed by SLAs, which affect BT's offering for SL3 and SL4.

10.5 Other aspects of minimum service standard regime

- 10.21 It is important that, given BT's long history of regulatory gaming, the minimum service standard regime is set in a way that prevents BT from gaming. In particular, we consider that it will be essential for Ofcom to provide a robust definition of what constitutes (a) a fault and (b) a repaired fault. In the absence of such a definition, TalkTalk anticipates that there is likely to be a series of disputes between BT and CPs over what proportion of faults have been repaired within the required timescales. Ofcom will need to retain sufficient discretion during the regulatory period to issue Directions from time to time if particular types of regulatory gaming emerge.
- 10.22 TalkTalk further considers that it is imperative that the regime comes into force as soon as possible, given BT's long history of inadequate quality of service. The regime of minimum standards for SLA should therefore commence contemporaneously with the new charge controls. If this is delayed, then what is described as the "first year" in Table 3.4 of the consultation document should actually be the period to the end of

⁸² Without any regulatory constraint BT will allow the fault rate to rise / fall to minimize BT's costs (including the cost of preventative maintenance and fault repair) though it might, if for instance there is a cash constraint, allow preventative maintenance to fall below this level. However, the 'optimal' level will be higher than this since currently BT does not internalize the cost of faults to consumers.

⁸³ Ofcom appears to concur with this position at §5.11.

March 2015, which will be shorter than a year. Higher standards will then be set for the periods commencing 1 April 2015 and 1 April 2016.

- 10.23 TalkTalk also believes that it would be helpful to have greater clarity over what penalties BT will face in the event that it fails to meet minimum service standards. We are aware that Ofcom cannot fetter its own discretion, but believe that Ofcom should go as far as possible in setting out the factors which will lead fines to be greater or smaller, such that BT cannot claim that it was unaware that it would be fined if it fails to meet targets.
- 10.24 Ofcom should include in its Direction a power to allow the setting of additional minimum service standards during the course of the regulatory period.

10.6 Cost implications of minimum service standards

- 10.25 Ofcom has relied on Openreach's Discrete Event Simulation (DES) model to estimate the cost impact of higher quality/QoS and particularly the cost impact of higher repair care levels (i.e. care level 2 versus care level 1) and the cost of higher performance (i.e. % faults repaired completed within SLA). Frontier Economics have reviewed this model on behalf of TalkTalk (and Sky). Their conclusion is that the model is a poor representation of the costs of higher quality and probably overestimates the cost. A number of Openreach's assumptions unequivocally overestimate the additional cost whereas for other points we are not certain of the direction of any bias – however, it is legitimate to presume that where Openreach has adopted assumptions it has chosen those that best suit its objectives to exaggerate costs.
- 10.26 The key points are:
- the model assumes a fixed distribution of time to complete tasks. This results in unrealistic 'behaviour' – for instance, even if resource were free a task that was due to be completed later would not be done;
 - the distribution of time to complete tasks (a gamma distribution) is a very poor fit of the observed data;
 - the change in the distribution of time to complete jobs as the QoS increases does not reflect reality (since it assumes that the mean/average remains the same even if the SLA improves);
 - the assumption that an X% increase in resource required will result in an X% increase in costs is not realistic and over estimates the added costs since in practice overtime, reduced training and holidays and contractors would be used to serve the peak at lower cost.
- 10.27 Therefore, we consider that Ofcom should reduce the additional cost of higher QoS. For instance the 14% increase for higher care should be reduced to 10%.

11 Annex 1: SJ-MPF

- 11.1 As we explain in section 3.2, whether the costs of MPF should be based on single jumpering ('**SJ-MPF**') or on current double jumpering ('**DJ-MPF**') turns on whether Openreach *could have reasonably known* in 2007 or 2008 (say) that SJ-MPF was lower cost than DJ-MPF.
- 11.2 By its nature such an assessment should not be based on what is known now but what could have been reasonably known or predicted at that time. This is particularly important in respect of MPF volumes since the viability of SJ-MPF depends in large part on the likely volumes on MPF lines (per exchange) that could be deployed using SJ-MPF. We discuss below the situations in which SJ-MPF would be lower cost and what Openreach could reasonably known or foreseen in 2007 or 2008 regarding volumes. On the basis of these factors, we derive conclusions on whether Openreach could reasonably known that SJ-MPF would have been lower cost and in which exchanges.

11.1 Relative costs in different exchange types

- 11.3 We firstly assess the various scenarios in which SJ-MPF would be lower cost. The relative costs of SJ-MPF and DJ-MPF depend primarily on three key factors.
- 11.4 The first is the volume of new or growth MPF lines⁸⁴ in the exchange. If there are very few growth MPF lines then DJ-MPF is lower cost since under DJ-MPF the TASM⁸⁵ is shared between CPs (whereas with SJ-MPF the TASM is dedicated to each CP). This means that under DJ-MPF TASM utilisation is higher and so lower cost.
- 11.5 The second is the number of CPs in an exchange. If there are several CPs using MPF in an exchange then the benefits of sharing TASMs that DJ-MPF allows is greater.
- 11.6 The third is whether there is an existing estate of DJ-MPF equipment in the exchange i.e. whether the exchange is newly unbundled. In exchanges with existing DJ-MPF equipment then there is likely to be spare capacity on this equipment (i.e. TAMs, tie cables, master controller, test head, rack) which can be used for effectively zero incremental cost, thereby lowering the cost of DJ-MPF.
- 11.7 We have created a model to assess the cost of SJ-MPF and DJ-MPF under different levels of volume, number of CPs and whether there is an existing estate. It is based on the approach used by Ofcom to assess the DJ-MPF dispute but models the costs based on the three variables above⁸⁶. We have provided the model to Ofcom. We are happy to answer any questions that Ofcom have.

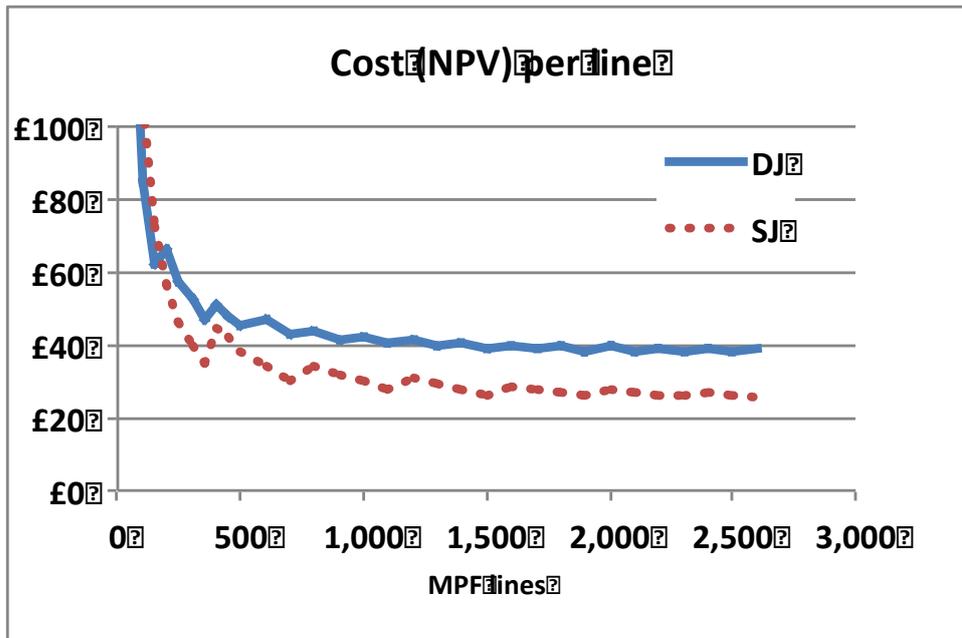
⁸⁴ It is accepted that only growth / additional MPF lines could be put onto SJ-MPF. To migrate existing DJ-MPF lines to SJ-MPF would cost more than the saving. Further, it is typically lower cost to fully use the existing DJ-MPF equipment rather than deploy additional equipment for SJ-MPF. This means that only growth i.e. net additional lines would be deployed onto SJ-MPF

⁸⁵ TASM - Test Access Switch Matrix. It provides the link between the MPF line and test equipment

⁸⁶ A number of relevant points about the model are:

11.8 An example output of the model is provided in the graph below. This shows the costs of SJ-MPF and DJ-MPF in an exchange where there is no existing DJ-MPF estate (and so no spare capacity that can be used) and where there are 2 CPs using MPF. The number of MPF lines (on the x-axis) is the total growth MPF lines in the exchange (i.e. not per CP).

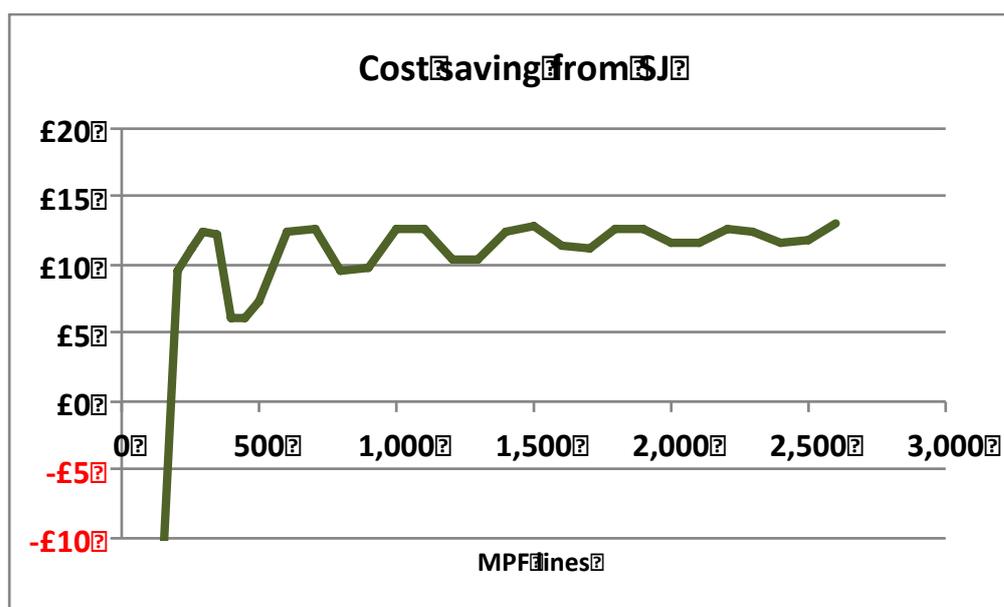
Cost (NPV) of SJ-MPF and DJ-MPF (2 CPs)



11.9 This shows that at low volumes putting MPF lines onto SJ-MPF is more expensive than DJ-MPF. The chart below shows the cost saving of SJ-MPF.

- The model assesses the NPV of using DJ-MPF and SJ-MPF to serve MPF lines in exchanges
- The assumptions in the model necessarily need to include the unit cost of equipment – it was possible to estimate this quite accurately from Ofcom’s dispute based on the model Ofcom provided and certain data Ofcom disclosed
- Only the costs that change between the two options (i.e. with SJ-MPF or without SJ-MPF) are modeled. These costs are: Frame cost, TAM, tie cables, rack, master controller, test head, jumper installs, jumper removals
- We have not included the cost of development which is about £1m since not incremental to each exchange

Cost saving (NPV) of SJ-MPF versus DJ-MPF (2 CPs)



11.10 This shows that above about 300 lines SJ-MPF is lower cost – the 300 is estimated using a trend through the jagged line⁸⁷. We refer to the number of lines above which SJ-MPF is lower cost as the ‘breakeven’. At volumes above 1,000 lines SJ-MPF is about £12 per line per annum lower cost.

11.11 We have run the model for a variety of scenarios to test how the breakeven point (i.e. number of MPF lines in the exchange above which SJ-MPF is lower cost) varies under different assumptions. The breakeven points (in lines per exchange) are shown in the table below⁸⁸:

Breakeven volume for SJ-MPF

Number of CPs using MPF	No existing DJ-MPF estate	Existing DJ-MPF estate
1	0	300
2	300	500
3	400	700

11.12 The breakeven points vary as would be expected. In an exchange without any existing equipment (i.e. a newly unbundled one) then if there is only one CP entering that exchange using MPF then it will always be lower cost to use SJ-MPF since there is no cost saving from sharing the TASM (as there is no sharing possible). As the number of CPs in these exchanges increases so the breakeven increases (0 then 300

⁸⁷ The jagged saw-tooth shape of the lines reflects that TASM (and other associated equipment) is purchased in units of 200 ports

⁸⁸ The breakeven points are not precise since the costs exhibit a saw-tooth shape. Accordingly, the breakeven points are based on the trend rather than the precise cost.

then 400) since the benefits of sharing that DJ-MPF enjoys increases. Moving to the right hand column (which assumes there is an existing DJ-MPF estate) the breakeven points are higher since the cost of DJ-MPF is lower because it can enjoy the benefits of 'free' capacity.

- 11.13 This analysis provides a picture of the situations where SJ-MPF would be lower cost than DJ-MPF and where it would be higher cost. It is relevant to consider that the 2,000 largest exchanges have about 10,000 copper lines each⁸⁹ so the number of lines required on SJ-MPF to reach breakeven is a small proportion (around 0% to 7%) of the total lines in these exchanges.

11.2 Demand for MPF

- 11.14 The second question is what the foreseeable level of demand for MPF in 2007 and 2008 was. It is worth explaining the state of the market at this time.
- TalkTalk had launched LLU based (solely) on MPF in 2006. By April 2007 TalkTalk had unbundled 983 exchanges and 371,000 customers
 - The only other CP using MPF in more than a few exchanges was Bulldog⁹⁰ who had around a few 10,000s lines in about 500 exchanges⁹¹. The vast majority of MPF lines were on TalkTalk
 - Most other CPs using unbundling e.g. Easynet, Tiscali, AOL were at that stage based solely on SMPF
- 11.15 The table below shows the number of TalkTalk MPF lines (both actual and forecast) as well as the number of exchanges that TalkTalk had unbundled.

TalkTalk forecast/actual MPF and exchange volume (000s)

[✂]

- 11.16 A number of points can be drawn from this about the information available to Openreach in 2007 and 2008:
- TalkTalk had clearly made a substantial investment in unbundling (1,600 exchanges by Apr 2008). It was clearly very committed to building its customer base on MPF and had significant sunk costs to do so;

⁸⁹ 24 million lines, estimate that 85% in top 2,000 exchanges. Thus $24m \times 85\% / 2,000 = 10,200$ lines. From WBA Market Review in 2010 most competitive 2,200 exchanges covers 88% of country. See Table A3.4 Dec 2010 column

⁹⁰ Bulldog was purchased in 2004 by C&W. Most of its customer base of about 120,000 subscribers was sold to Pipex in 2006 and it operated serving the wholesale market (Virgin off-net and Tesco) and businesses. See:

<http://www.theguardian.com/technology/2005/apr/21/media.newmedia>

http://www.theregister.co.uk/2006/06/08/bulldog_llu/

http://www.theregister.co.uk/2007/07/02/cable_wireless_shuts_residential/

⁹¹ This is our (Andrew Heaney's) recollection. Ofcom probably has the data to confirm this figure e.g. in the 2008 WBA Market Review

- TalkTalk was adding customers rapidly – [§<];
- In the majority of exchanges that TalkTalk was unbundling it was the only MPF operator – TalkTalk covered 1,600 exchanges and of these Bulldog covered about 500.

11.3 Efficient deployment of SJ-MPF

- 11.17 From the analysis about where SJ-MPF is lower cost and also the data on the volume and growth in MPF lines and exchanges (that was foreseen in 2007/2008) we can assess whether Openreach should reasonably have foreseen that SJ-MPF would have been lower cost. Whether in a particular exchange SJ-MPF was lower costs depends on number of additional lines, number of CPs and whether existing DJ-MPF estate.
- 11.18 We have developed estimates of the distribution of TalkTalk lines across the different exchanges reflecting that the first exchanges were larger and also that the lines in new build exchanges take time to build. This is based on the forecast number of lines made in 2008/09. The calculations to derive these estimates are included in the model we have provided to Ofcom.

Lines by exchange type

[§<]

- 11.19 Using this breakdown it is possible to derive the number of additional MPF lines⁹² that could be put onto SJ-MPF by exchange type. This is shown in the table below along with the breakeven number of additional MPF lines to make SJ-MPF viable – as we explained above the breakeven number of lines depends on the number of CPs and whether existing DJ-MPF estate.

Potential lines on SJ-MPF assuming Apr 2008 start

Number of CPs using MPF	Number of exchanges	Forecast additional MPF lines	Type exchange	Breakeven for SJ-MPF
Bulldog and TalkTalk	500	[§<]	2 CP existing DJ estate	500
TalkTalk only (built before Mar 2007)	483	[§<]	1 CP existing DJ estate	300
TalkTalk only (built Apr 2007 to Mar 2008)	637	[§<]	1 CP existing DJ estate	300
TalkTalk only (built Apr 2008)	85	[§<]	1 CP no existing	0

⁹² We derive the additional lines on MPF as the (actual) net growth in lines in that exchange over the following 5 years. [§<]

to Mar 2009)			DJ estate	
TalkTalk only (built Apr 2009 to Mar 2010)	37	[\approx]	1 CP no existing DJ estate	0

11.20 What this shows is that in all exchange types the number of additional lines is significantly above the breakeven to make SJ-MPF lower cost than DJ-MPF. Even where TalkTalk had been present in the exchange for some time there was sufficient additional MPF lines to make deploying SJ-MPF lower cost.

11.21 We have run the same analysis for a April 2009 start and the forecast additional MPF lines is still well above breakeven for all exchange types. This reflects two factors: first, the later start means that in already built exchanges the number of lines that could be put onto SJ-MPF is less; and, second that TalkTalk’s forecast volumes were higher.

11.22 The one complication to this picture is that there were other operators who were planning to (and did) deploy MPF (e.g. Tiscali and more latterly Sky). These were all scale operators who were adding high volumes of MPF lines (e.g. 500 or more per exchange). The impact of these operators on the analysis would have been two fold (a) would have increased the breakeven by about 200 MPF lines since there was an extra CP and (b) would have added 500 or more lines. This would mean that the introduction of these additional CPs would have made SJ-MPF even more attractive (and cost saving) than without these CPs. Obviously if these CPs were small the same conclusion would not hold.

11.23 Thus it is clear based on data that was available to Openreach in 2007 and 2008 that Openreach could reasonably known that SJ-MPF would have been lower cost to deploy in the majority of exchanges that were unbundled or were to be unbundled. This is consistent with Openreach’s own statements in July 2007⁹³ where it said:

“[double jumper] architecture came about in the early days of LLU when line volumes were low

[double jumper] architecture is not ideal for a volume MPF world

[DJ-MPF results in] inefficient use of MDF infrastructure... driving up MDF costs ... demanding of frames jumpering resource ... Uses more raw materials / labour than is necessary.”

11.4 Impact on MPF rental costs

11.24 Below we estimate the impact on MPF costs (for the current charge control) of basing the costs on the efficient use of SJ-MPF.

11.25 We can estimate the approximate number of lines that would have been deployed on SJ-MPF if Openreach had acted efficiently in 2007/2008. This is explained below:

⁹³ LLU TAM – Selective ‘In-Line’ Deployment Proposed Usage. Gary Williamson / Andy Snellgrove 23 July 2007

- Assume SJ-MPF started being deployed in Apr 2008. This is reasonable since in 2007 Openreach was well aware of the benefits of SJ-MPF
- TalkTalk had already in April 2008 deployed 1.036m lines on SJ-MPF and Bulldog about 0.120m (maximum)
- Say 20% of additional MPF lines in 08/09 and 09/10 were deployed on DJ-MPF ([£]⁹⁴) since were in already unbundled exchanges with low MPF growth that were below breakeven for SJ-MPF. This is conservative since the analysis above indicates that all additional lines should have been deployed on SJ-MPF
- After 09/10 given move by Sky to MPF and more rapid growth then assuming only 10% of lines go onto DJ-MPF ([£]⁹⁵)
- This would mean that [£]⁹⁶ lines would be on DJ-MPF in 2016/17 (which is the end of the charge control) and 7.0m lines would be on SJ-MPF (which would be about 2,700 lines per exchange unbundled)

11.26 The cost saving can be estimated as follows:

- Based on today's unit costs / equipment prices the NPV saving per line on SJ-MPF derived from the model is about £12⁹⁷. This represents (correctly) the forward looking cost difference if the lines were on SJ-MPF (rather than DJ-MPF)
- This figure can be annualised using a lifetime of 7 years (which matches the asset life) and WACC of 8.8% which gives an annual amount of about £2.40
- Thus the annual cost reduction (or the adjustment to reach the efficient cost) would be [£]⁹⁸ (or [£] per all MPF lines)

11.27 To implement this in the model Ofcom will need to make two adjustments which will have the effect of reducing the MPF charge by [£] per line⁹⁹ and leaving the other prices unchanged:

- Reduce MPF costs by [£]
- At the moment the incremental cost difference as between MPF and WLR/SMPF reflects that all MPF lines are double jumpered and so incur higher costs than WLR/WMPF. This needs to be adjusted to reflect that only [£] of the 9.1m lines are double jumpered

⁹⁴ growth in 08/09 and 09/10 = [£]

⁹⁵ growth from 10/11 to 16/17 = [£]

⁹⁶ [£] = 1.036m + 0.120m + [£] + [£]

⁹⁷ This is based on today's prices. The costs and cost saving per line in 2007/08 would likely have been higher

⁹⁸ = [£]

⁹⁹ = [£] / 9.1m MPF lines