LLCC PPC Points of Handover pricing review

Final Statement on modification of SMP Conditions

Statement

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Section 1

Executive Summary

1.1 This statement sets out our final decision on the modification of the charge control on BT in relation to its Point of Handover pricing, following our consultation published on 26 January 2011 ("the January Consultation")[1] and a second consultation published on 22 June 2011 ("the June Consultation").[2]

1.2 These consultations reconsidered a number of issues remitted back to Ofcom by the Competition Appeal Tribunal ("CAT") following the disposal of the Leased Lines Charge Control appeal ("the LLCC Appeal") on 20 September 2010.[3] The remitted issues relate specifically to the cost recovery approach for Points of Handover ("POHs") used to deliver Partial Private Circuits ("PPCs").

1.3 A POH is a high capacity link provided by BT, which connects a Communications Provider's ("CP") network with that of BT and comprises the physical infrastructure (duct and fibre) as well as electronics at both or one end of the link. It is therefore an important component which enables infrastructure based competition.

1.4 In our January Consultation we made a number of proposals relating to the cost-recovery approach and the cost estimates for the additional POH charges. In particular:

- we proposed the additional POH charges should be brought into line with Long Run Incremental Costs ("LRIC") and we proposed to set the charges based on LRIC estimates derived from our own bottom-up model;
- based on our bottom-up model we estimated that the additional POH costs were between £3.5m and £4.1m on a LRIC basis, with a central estimate of £3.8m;
- we proposed that Type I POH charges[4] should be reduced immediately to LRIC while increases in Type II charges should be phased; and
- we also proposed to waive the notification period to allow BT to make the price changes without requiring 28 days notice.

1.5 The responses to the January Consultation raised a number of issues about our overall approach and also about the specific assumptions used in our bottom-up model.[5] We considered that a number of those comments affected our cost estimates and therefore we published a second consultation in June which set out what changes we were proposing to make to our modelling assumptions and cost estimates in our bottom-up model. In particular:

[1] http://stakeholders.ofcom.org.uk/consultations/points-handover-pricing/
[2] http://stakeholders.ofcom.org.uk/consultations/revision-points-handover-pricing/
[3] http://www.catribunal.org.uk/files/1112_Cable_Wireless_Ruling_200910.pdf
[4] In the LLCC Statement we characterised POHs as being Type I or Type II. Type I POHs are those purchased by CPs on wholesale terms from the outset. Type II POHs are those initially purchased on retail terms and subsequently re-designated as wholesale. Leased Line Charge Control Statement, Ofcom, 2 July 2009, http://stakeholders.ofcom.org.uk/consultations/llcc/statement/
[5] Non-confidential responses are available on our website here: http://stakeholders.ofcom.org.uk/consultations/points-handover-pricing/?showResponses=true

- we estimated that the additional POH costs were in the range of £2.7m to £3.4m on the proposed LRIC basis;

- we proposed that the increases in charges for Type II POHs were such that they should be introduced in a single change and not phased (as proposed in the January Consultation); and

- we proposed that the new additional POH charge control would apply from 1 October 2011 until 30 September 2012.

1.6 We received four responses to the June Consultation[6] and we have considered these comments carefully, as well as the comments received in response to the January Consultation, in reaching our conclusions on the appropriate cost recovery approach and additional charges for POHs.

1.7 We notified our proposed decision and draft statement to the European Commission, BEREC[7] and the national regulatory authorities ("NRAs") in other Member States for EU consultation under section 48B of the Act on 19 August 2011.[8] We did not receive any comments from these bodies and therefore we are confirming our final decision in this statement.

Summary of our final decision

Additional POH charges should be brought into line with LRIC

1.8 We have decided to implement a cost recovery approach based on LRIC. This is because a LRIC approach:

- follows the cost causality principle closely (by only including costs incurred directly to provide POHs); and

- is likely to promote more effective and sustainable competition by only taking into account the costs incurred as a result of CPs' demand for POHs.

We have set the charge control based on LRIC estimates derived from our own bottom-up model

1.9 We developed our own bottom-up model which we published alongside the January and June Consultations. We have used this bottom-up model to set the additional POH charges. We consider the estimates derived using our bottom-up model to be more robust than the top-down estimates provided by BT, because the latter have been obtained using very broadly defined increments, and tend to be volatile over time.

1.10 Based on our bottom-up model, we estimate that the costs of providing additional POHs are £2.9m on a LRIC basis. We are therefore setting the charge control on BT for additional POHs as shown in Table 1 below.

[6] Non-confidential responses are available on our website here: http://stakeholders.ofcom.org.uk/consultations/revision-points-handover-pricing/?showResponses=true

[7] The Body of European Regulators for Electronic Communications

[8] See paragraphs 2.33 to 2.36 below for an explanation of this new process of EU consultation. We published our notification and draft statement here: http://stakeholders.ofcom.org.uk/consultations/revision-points-handover-pricing/statement/

Table 1: The new additional POH charge control

Type I POHs (£ per POH)	SMA-1	SMA-4	SMA-16	Bearer
New charges	£402	£477	£1349	£227
Type II POHs (£ per circuit)	**Sub 2M**	**2M**	**34M**	**155M**
New charges	£119	£203	£1027	£1910

The new additional POH charge control will apply from 1st October 2011 to 30th September 2012

1.11 We originally proposed that the increases to Type II charges should be phased, in order to allow CPs sufficient notice to make any required changes to their network plans and to prevent weakening of competition. However, in the June Consultation we noted that the price increases for Type II charges were not as significant as we originally proposed and were therefore unlikely to be disruptive to CPs or weaken competition. We also noted the additional time required for the second consultation would have provided CPs with sufficient notice of the potential price increases for Type II charges.

1.12 We have therefore decided that the new additional POH charge control should be implemented from 1st October and these will apply until the 30th September 2012 (the end of the current charge control year). We have decided that these charges will not be increased (in nominal terms) during this final year of the charge control.

1.13 We have, however, made an adjustment to the charges to allow for inflation in order to ensure that they reflect the average general price level for that year (given that some of the inputs to the bottom-up model are based on current prices).

Legal tests, European notification and amendment to the SMP Condition

1.14 We consider that our decision fulfils our duties under section 3 and 4 of the Act and meets the section 88 and 47 tests of the Act (set out in Section 2). We have set out our reasoning in more detail in Section 5.

1.15 We have notified the Secretary of State, the European Commission and BEREC of our final decision in accordance with Section 48C of the Act.

1.16 We have included a notification of the required modifications of the price controls on BT at Annex 1 of this statement.

Section 2

Background & Policy Objectives

Introduction

2.1 In January 2011, we published a consultation ("the January Consultation") which reconsidered a number of issues remitted back to Ofcom by the CAT following the disposal of the LLCC Appeal on 20 September 2010.[9] The remitted issues related specifically to the cost recovery approach for POHs used to deliver PPCs.

2.2 Following stakeholder responses to the January Consultation, we published a further consultation in June ("the June Consultation")[10] which proposed a number of revisions to our modelling assumptions and cost estimates, as well as reconsidering the phased approach to increases in Type II POH charges.

2.3 This statement sets out those consultations, the responses to them and our view on those responses as well as our final decision. The purpose of this section is to:

- outline the background to this statement;
- set out our policy objectives for this review; and
- identify the legal framework which supports our decision.

Background

2.4 We set out the full background to this review in the January Consultation but below we have briefly summarised the key developments.

2.5 Our July 2009 statement "*Leased Lines Charge Control – a new charge control framework for wholesale traditional interface and alternative interface products and services*" ("the LLCC Statement")[11] set out our conclusions on the charge controls for wholesale traditional and alternative interface leased lines services supplied by BT in markets in which it was found to have Significant Market Power ("SMP").[12] The LLCC Statement concluded on the detailed design and methodology of the charge controls.

2.6 With regard to POHs specifically, the LLCC Statement amended the way in which charges paid by other CPs to BT were structured. It introduced four separate POH charges ("the New POH Charges") to reflect the differing costs of POH at different bandwidths (specifically the four charges were for 64 Kbit/s, 2Mbit/s, 34/45 Mbit/s and 140/155 Mbit/s).[13] It also required BT to introduce, within three months of the publication of the LLCC Statement and following consultation with industry, a new

[9] "*LLCC PPC Points of Handover pricing review – Proposal for modification of SMP Controls*", 26 January 2011, http://stakeholders.ofcom.org.uk/consultations/points-handover-pricing/ ("The January Consultation").
[10] "LLCC PPC Points of Handover pricing review –revisions to proposed modifications of SMP Controls", 22 July 2011, http://stakeholders.ofcom.org.uk/consultations/revision-points-handover-pricing/ ("the June Consultation").
[11] http://stakeholders.ofcom.org.uk/consultations/llcc/statement/
[12] See the Business Connectivity Market Review ('BCMR') statement at: http://stakeholders.ofcom.org.uk/consultations/bcmr08/
[13] The New POH Charges were set out in Table 4.4 of the LLCC Statement.

and improved charging mechanism that would incentivise migration to new, aggregated POHs.[14] While BT was developing this alternative charging mechanism, CPs would continue to be protected by the safeguard cap of RPI-0% imposed by the LLCC Statement on each New POH Charge.

2.7 On 2 September 2009, C&W brought an appeal against the LLCC Statement[15] to the CAT. The appeal was specifically in relation to Traditional Interface Symmetric Broadband Origination ("TISBO") services.[16] On 16 December 2009, the CAT referred to the Competition Commission ("CC")[17] the specified price control matters arising in the LLCC Appeal.

2.8 On 30 June 2010, the CC notified the CAT of its determination ("the Determination") on the price control matters.[18] In relation to POHs the CC's Determination was that:

- "...Ofcom erred in its use of BT's estimate of the costs to be recovered by the POH charges..." (Reference Question 4(a)(i); paragraph 5.3 of the Determination);

- "...Ofcom erred in concluding that its decision regarding the recovery of POH charges was appropriate for promoting sustainable competition" ((Reference Question 4(a)(iii); paragraph 5.95 of the Determination); and

- "...Ofcom did err in giving BT the discretion it did as to future charges for POH..." ((Reference Question 4(b)(i); paragraph 5.288 of the Determination).

2.9 On 20 September 2010 the CAT disposed of the entire appeal ("the Ruling")[19] and remitted the decision under appeal to Ofcom with specific directions in relation to POHs. These were:

- to assess the reasonableness of the revised BT estimated costs and the determination of the appropriate level of the new POH charges;

- to assess the various regulatory options for implementing new POH charges in the light of the CC's assessment; and

- to decide how POH costs should be recovered.

2.10 In response to the Ruling, we published an amendment to BT's SMP Services Conditions[20] which took effect from 1 October 2010.

2.11 We also established a new policy project to look at the specific POH issues remitted to us by the CAT.

[14] See paragraph 4.161 of the LLCC Statement. http://stakeholders.ofcom.org.uk/consultations/llcc/statement/
[15] http://www.catribunal.org.uk/files/Summary_1112_CableWireless_07.09.09.pdf
[16] Traditional interface symmetric broadband origination ('TISBO'). A form of symmetric broadband origination service providing symmetric capacity from a customer's premises to an appropriate point of aggregation in the network hierarchy, using a CCITT G703 interface.
[17] http://www.catribunal.org.uk/files/1112_Cable_Wireless_Order_16.12.09.pdf
[18] http://www.competition-commission.org.uk/appeals/communications_act/final_determination_excised_version_for_publication.pdf
[19] http://www.catribunal.org.uk/files/1112_Cable_Wireless_Ruling_200910.pdf
[20] http://stakeholders.ofcom.org.uk/binaries/consultations/llcc/statement/LLCC_decision_final.pdf

What are Points of Handover (POH)?

2.12 A POH is one element of a PPC. A PPC provides connectivity between CPs (other than BT) and an end user, across BTs network. The POH provides a single high speed connection between BT and a CP for an aggregated group of PPCs.

2.13 In the LLCC Statement[21] we characterised POHs as being Type I or Type II. Type I POHs are those purchased by CPs on wholesale terms from the outset. Type II POHs are those initially purchased on retail terms and subsequently re-designated as wholesale. In paragraphs 2.14 to 2.16 of the January Consultation we set out a detailed description of the characteristics of the two types of POHs, and the types of POHs by distance.

2.14 BT recovers some of the PPC POH costs from CPs through a combination of connection and rental charges. BT also levies additional POH charges, aimed at recovering that element of costs (circa £6.7m in 2009/10 as per BT's original estimates) not recovered via the previous two charges. It is these additional POH costs which we were directed by the CAT to re-consider and which are the focus of this statement.

Our policy objectives and review of regulatory options

2.15 Our specific policy objectives in reviewing the PPC POH charges were:

- to ensure that BT's cost estimates for additional POH charges were reasonable and did not inhibit CPs' ability to compete with BT in the retail leased lines market;
- to promote efficient and sustainable competition in the delivery of PPCs to ensure the market works well for end users;
- to provide regulatory certainty for BT and its customers and to avoid undue disruption;
- to encourage investment and innovation in the relevant markets; and
- to ensure that the delivery of the regulated services is sustainable, in that the prevailing prices provide BT with the opportunity to recover all of its relevant costs (where efficiently incurred), including the cost of capital.

2.16 These objectives have been central to our assessment of the regulatory options and the selection of the proposed approach. In the January Consultation, and below, we discuss how these policy objectives are consistent with our duties and obligations under sections 3 and 4 of the Act, and relevant guidance.

The January Consultation

2.17 In our January Consultation we considered and evaluated the available regulatory options for the recovery of the additional POH costs and proposed our preferred option. We also set out our approach to estimating the level of the additional POH costs. Specifically we set out:

[21] http://stakeholders.ofcom.org.uk/consultations/llcc/statement/, see Annex 5 of that statement.

- BT's estimates of the additional POH costs and our review of the main assumptions and variables used in the BT models;
- our own estimates of the additional POH costs to be recovered;
- our views on BT's current charging structure; and
- our new proposed additional POH charge control.

2.18 We also developed our own bottom-up model for estimating the additional POH costs. We provided a public version of the model to stakeholders as part of the consultation process.

2.19 We asked for stakeholders' comments on our preferred regulatory option and our cost estimates. We discuss our proposals, stakeholder responses and our conclusions taking account of these responses in Sections 3 and 4 of this document. Section 3 sets out our considerations of the appropriate cost approach to use whilst Section 4 discusses our detailed modelling analysis.

The June Consultation

2.20 In the June Consultation we made a number of proposed revisions to our modelling assumptions and cost estimates based on stakeholder comments received in response to the January Consultation. We set out how those changes affected our overall proposed new additional POH charge control and provided an amended version of our bottom-up model. In addition we proposed changes to the way in which the new POH charges would be introduced. We asked for stakeholder comments on our proposed changes by 20 July 2011.

The relevant legal framework

Ofcom's general duties

2.21 In considering the regulatory options available for the assessment of additional POH costs, we have had regard to our general duties as set out in section 3 of the Act. Section 3(1) states that Ofcom's principal duty is to further the interests of citizens in relation to communications matters and consumers in relevant markets, where appropriate, by promoting competition. Moreover:

- Section 3(2)(b) of the Act states that Ofcom must secure the availability throughout the UK of a wide range of electronic communications services;
- Section 3(4) of the Act states that we must have regard to the desirability of promoting competition in relevant markets; and
- Section 3(5) of the Act states that, in furthering the interests of consumers, we must have regard to choice, price, quality of service and value for money.

2.22 We have taken the above into consideration when assessing the regulatory options and selecting our chosen approach. We explain this further in Section 5 of this statement. We have in particular taken into account the need to promote further competition by adopting the most appropriate charging option and the need to further the interests of consumers by ensuring that prices for POHs are cost reflective.

The European Community requirements

2.23 In carrying out our functions, we also have to comply with the six European Community requirements set out in section 4 of the Act.

2.24 In summary, these six requirements are:

- to promote competition;
- to contribute to the development of the internal market;
- to promote the interests of all EU citizens;
- not to favour one type of network, service or associated facility over another;
- to encourage network access and service interoperability in order to promote efficiency and competition; and
- to encourage compliance with relevant international standards.

2.25 We have taken the above into consideration in our decision regarding the treatment of additional POH charges, as discussed further in Section 5. In particular, we have focused on the promotion of competition and encouraging network access and service interoperability, which is particularly relevant when considering POH costs and charges.

Section 87 and 88

2.26 Section 87(1) of the Act provides that, where Ofcom has made a determination that a person is dominant in a particular market, it must set such SMP conditions as it considers appropriate and as are authorised under the Act. One of the SMP conditions which Ofcom is authorised to impose on a dominant provider is a price control (section 87(9) of the Act). The price control for TISBO services was imposed by the LLCC Statement, following the completion of the Business Connectivity Market Review ("BCMR") statement.[22] Further, section 87(9)(b) also authorises Ofcom to put in place rules in relation to the recovery of costs.

2.27 Section 88 of the Act states that Ofcom may not set a price control as an SMP condition, except where it appears to Ofcom (from the market analysis carried out for the purpose of setting that condition) that there is a relevant risk of adverse effects arising from price distortions and that the setting of the condition is appropriate for the purposes of:

- promoting efficiency;
- promoting sustainable competition; and
- conferring the greatest possible benefits on the end-users of public electronic communications services.

2.28 In addition, in setting the price control, Ofcom must take account of the extent of the investment in the matters to which the condition relates of the person to whom it is to apply (section 88(2)).

[22] http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr08/summary/bcmr08.pdf

Section 47

2.29 As well as being appropriate, as required by section 87(1) of the Act, and meeting the test under section 88 of the Act, a price control, similar to all other SMP conditions, must also satisfy the tests set out in section 47(2) of the Act. These are that each condition must be:

- objectively justifiable in relation to the networks, services or facilities to which it relates;
- not such as to discriminate unduly against particular persons or a particular description of person;
- proportionate to what the condition is intended to achieve; and
- in relation to what is intended to achieve, transparent.

2.30 We are also required under section 6 of the Act to ensure that regulation by Ofcom does not involve the imposition or maintenance of unnecessary burdens and to consider the scope of effective self-regulation.

2.31 We are satisfied that our decision fulfils our policy aims and objectives as well as the relevant requirements specified in the Act and relevant Directives. We explain this further in Sections 3 and 4 of this statement where we explain our chosen approach to establishing the underlying cost base for additional POH charges.

We have taken into account other relevant guidance

2.32 In addition to our duties listed above, we have also taken into account the following:

- the European Regulators' Group's ("ERG") common position[23] on best practice in remedies imposed as a consequence of a position of SMP in the relevant wholesale leased lines markets; and
- the revised ERG[24] common position on the approach to appropriate remedies in the regulatory framework for electronic communications networks and services.

We notified our draft decision to the European Commission in accordance with the Revised Framework.

2.33 Under the revised Article 7 of the Framework Directive[25] National Regulatory Authorities ("NRAs") are required to notify their draft decision to the European Commission, the Body of the European Regulators for Electronic Communications ("BEREC") and other NRAs upon completion of their own domestic consultation and having taken into account all stakeholder responses. The European Commission, BEREC and other NRAs may make comments within a month. The notifying NRA needs to take utmost account of any Commission and BEREC opinions.

[23] http://www.erg.eu.int/doc/publications/erg_07_54_wll_cp_final_080331.pdf
[24] http://www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf
[25] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0037:0069:EN:PDF

2.34 The revised framework was transposed into UK law by the Electronic Communications and Wireless Telegraphy Regulations 2011[26] which came into force on 26 May 2011 and amended the Act.

2.35 Under section 48B of the Act, after having completed a process of domestic consultation and taking into account all representations made and making any modifications to our proposals that appear appropriate, we are required to send a copy of our proposals and a statement setting out the reasons for it, to:

- the European Commission;
- BEREC; and
- the regulatory authorities in every other member state.

2.36 These bodies have a period of one month in which to make comments on Ofcom's proposals. Ofcom is required to consider any comments made by those bodies before giving effect to the proposal.

2.37 We have set out in Section 5 how we followed this European Consultation process.

Other relevant Ofcom projects

Wholesale Broadband Access charge controls

2.38 On 20 July we published a statement in relation to the Wholesale Broadband Access charge controls ("WBA CC") imposing a the charge control for BT's WBA products.[27] The WBA CC statement followed our statement on the WBA market review in December last year.[28] In the WBA CC statement we set out our latest estimates of BT's weighted average cost of capital ("WACC"). We have estimated two rates, one to apply to the copper access services provided by Openreach and one to apply to the "rest of BT". We have used the amended cost of capital for the "rest of BT" to estimate some elements of the additional POH costs.

Replicability Review & the Business Connectivity Market Review

2.39 In June 2009, Ofcom consulted on the question of whether BT's retail low bandwidth digital leased lines could now be replicated by its competitors.[29] Ofcom proposed that, if they could be replicated, BT should be given additional pricing freedom in the market for retail low bandwidth leased lines. Because C&W regarded BT's POH charges as a bar to replicability and because these were a central issue in the LLCC Appeal, Ofcom put on hold its review of the replicability and regulation of BT's retail low bandwidth digital leased lines. With the disposal of the LLCC Appeal, we had intended to restart work on our review of replicability. However, because of the delay caused by the appeal, and recent developments in the market, we decided that the most appropriate way of proceeding was to reconsider regulation of this market as part of our next BCMR.[30]

[26] http://www.legislation.gov.uk/uksi/2011/1210/pdfs/uksi_20111210_en.pdf
[27] *WBA Charge Control – Charge Control framework for WBA Market 1 services,* Ofcom, 20 July 2011, http://stakeholders.ofcom.org.uk/consultations/wba-charge-control/statement/
[28] http://stakeholders.ofcom.org.uk/consultations/wba/wba-statement/
[29] http://stakeholders.ofcom.org.uk/consultations/low_bandwidth/?a=0
[30] See: http://stakeholders.ofcom.org.uk/consultations/low_bandwidth/

2.40 We published a call for inputs on the BCMR in April[31] and we expect to issue a consultation by the end of 2011. The new regime for business connectivity services, including potential remedies and charge controls, will need to be in place by the time the current charge control expires on 30 September 2012.

Outline of the rest of this document

2.41 The rest of the main part of this document is structured as follows:

- Section 3 – summarises stakeholder comments on our proposals in the January Consultation for regulatory options and sets out our response to those comments;
- Section 4 – summarises stakeholder comments on our estimates of BT's costs for POHs from both the January and June Consultations and sets out our response to those comments; and
- Section 5 – details our decision in the light of stakeholder comments, sets out the legal tests and how we consider our decision meets those tests, as well as detailing how our decision will be implemented.

2.42 Annex 1 contains the Notification of the modification to the relevant SMP conditions.

[31] http://stakeholders.ofcom.org.uk/consultations/bcmr-inputs/

Section 3

Consultation responses on Ofcom's assessment of regulatory options

Introduction

3.1 In the January Consultation we set out four key options for the future arrangement of the POH charge control. We assessed these options against Ofcom's six principles of pricing and cost recovery and set out our preferred option. We asked for stakeholder comments on our assessment.

3.2 In this section we have first outlined our assessment and proposals in the January Consultation, then summarised stakeholders' comments on that assessment and finally set out our response to those comments.

3.3 We received six responses to the January Consultation; all the non-confidential responses are available on our website.[32] One of these responses was from the European Commission, which we notified under the previous Framework prior to 26 May 2011 (see paragraphs 2.33 to 2.36 above). The Commission did not comment on our January proposals.

3.4 We did not specifically ask for comments on our assessment of the regulatory options in response to the June Consultation, because we did not propose to make any changes to the approach set out in the January Consultation. The June Consultation was limited to changes to the cost estimates used but this did not affect the overall approach. No stakeholder submitted any further comments on the cost recovery approach, although BT reiterated some of its arguments against the use of a bottom-up model, which we have discussed and responded to in Section 4 below.

Our assessment of regulatory options in the January Consultation

3.5 In Section 3 of the January Consultation we considered four regulatory options, including a 'marginal cost pricing' option (which the CC, as part of its determination, concluded that Ofcom should consider).[33] These are set out below:

- Option 1: BT recovers costs on a FAC[34] basis only from CPs. This was the option implemented by the LLCC Statement;

- Option 2: BT recovers costs on a FAC basis from both itself and CPs. This would be achieved by spreading the costs of providing POH to CPs across all leased lines, including those supplied by BT's retail divisions;

[32] http://stakeholders.ofcom.org.uk/consultations/points-handover-pricing
[33] http://www.competition-commission.org.uk/appeals/communications_act/final_determination_excised_version_for_publication.pdf. Whilst we have taken into account the Determination in its entirety in relation to POH charges, we consider that paragraphs 5.159, 5.163, 5.183 to 5.184 and 5.206 to 5.208 are particularly relevant.
[34] Fully allocated cost ('FAC') is an accounting concept whereby all the firm's costs are distributed among the services it provides. The FAC of providing a particular service therefore includes a contribution towards common costs. Here common costs are those which arise from the provision of a group of services, but which are not incremental to the provision of any individual service.

- Option 3: BT recovers costs on a SRMC[35] basis only from CPs; and

- Option 4: BT recovers costs on a LRIC[36] basis only from CPs.

3.6 We then considered these options against the six principles of pricing and cost recovery.[37] These are:

- **Cost causation**: costs should be recovered from those whose actions cause the costs to be incurred at the margin;

- **Cost minimisation**: the mechanism for cost recovery should ensure that there are strong incentives to minimise costs;

- **Distribution of benefits**: costs should be recovered from the beneficiaries especially where there are externalities;

- **Effective competition**: the mechanism for cost recovery should not undermine or weaken the pressures for effective competition;

- **Practicability**: the mechanism for cost recovery needs to be practicable and relatively easy to implement; and

- **Reciprocity**: where services are provided reciprocally, charges should also be reciprocal.

3.7 After analysing the options against these principles, we proposed to set POH charges based on LRIC (Option 4), which moved away from BT's current pricing based on FAC (Option 1). We considered that the advantages of this approach were:

- LRIC pricing follows the cost causality principle closely (by including only those costs incurred directly to provide POH); and

- LRIC charging would also promote effective competition by only taking into account the costs incurred as a result of CPs' demand for POH. Our analysis indicated that any advantage gained by CPs compared to FAC-based charging was likely to be small but could be considered material given the overall additional POH costs.

3.8 Whilst the proposed approach raised some issues regarding implementation, because of the difficulties of obtaining accurate LRIC data, we used our bottom-up model to generate usable estimates.

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[35] Short run marginal cost ('SRMC') is the cost of producing an additional unit of output in the short run. Marginal cost is a special case of incremental cost where the increment is equal to one unit of output. In the short run some costs are fixed i.e. they do not vary with output over the specified period.

[36] Long run incremental cost ('LRIC') is the cost of producing a specified additional increment of output in the long run, i.e. where all costs are considered variable. The relevant increment may be the entire output of a particular service or group of services. Thus the incremental cost of a service is the difference between the total costs in a situation where the service is provided and the costs in another situation where the service is not provided.

[37] See "Telephone Number Portability", MMC November 1995. This was the first application of the six principles of pricing and cost recovery.
http://www.competition-commission.org.uk/rep_pub/reports/1995/fulltext/374c1.pdf

3.9 Below we have summarised our view on each of the six principles of cost recovery before detailing stakeholder comments on our assessment and our response to those comments.

Cost causation

Assessment in the January Consultation

3.10 We noted in the January Consultation that we had given significant weight to cost causation. We noted that the costs of POHs are to a large extent determined by the number, capacity, type and location of POHs demanded by CPs. We considered that following the principle of cost causation would encourage CPs to minimise those costs, to the extent that they could, and only to demand POHs where the value to them exceeds the cost of provision.

3.11 We considered that setting the additional POH charges on a FAC basis was consistent with cost causation but was not required by it, because other patterns of recovery of overheads would also be consistent with the cost causation principle, provided they could be recovered from the relevant group. In the case of POH this would be feasible since overheads could be recovered from other services within the TI basket. We noted therefore that the other principles might assume greater importance in determining the most suitable option.

3.12 We concluded that Options 1 and 4 were consistent with a long run view of cost causation whilst Option 3 took a short run view. We considered that a long run basis was more appropriate for assessing POH costs, because many of the costs of POHs are fixed and would not be taken into account under a short run view, so we rejected Option 3.

3.13 We considered that it would be contrary to the principle of cost causation if the additional POH costs were allocated to local ends provided by BT's retail divisions which did not use POHs (Option 2), so we rejected Option 2. Therefore we considered that Options 1 and 4 were preferable to Options 2 and 3 on cost causation grounds.

3.14 We asked stakeholders the following questions about our analysis:

Question 1: Do respondents agree that Options 1 and 4 are consistent with cost causation whilst Options 2 and 3 are not?

Stakeholder comments

3.15 In assessing the options against the six principles of cost recovery, BT argued Option 1 was more consistent with the cost causation principle because it allowed for the recovery of common costs associated with the consumption of POH. It noted that Ofcom placed more weight on cost causation and therefore considered that this pointed more towards the adoption of Option 1 over Option 4.

3.16 Verizon suggested that Ofcom was incorrect in giving primacy to the cost causation principle. It argued[38] that the CC had found that, whilst Ofcom was free to use the six principles, it must first follow the tests in section 88 of the Act. Verizon

[38] See Verizon's January Consultation Response, here: http://stakeholders.ofcom.org.uk/binaries/consultations/points-handover-pricing/responses/Verizon_Business.pdf

considered that we had given too much consideration to the FAC approach and not enough to Options 2 and 3 – although it said that it “remains comfortable with the proposed outcome in directional terms”.

Ofcom’s response

3.17 As discussed in the January Consultation, the cost causation principle implies that the costs of an activity should be borne by those causing the activity to take place, at the margin. As such Option 2 does not follow this principle because the additional POH costs would be allocated to local ends used by BT internally, even though BT does not use POH when it supplies a retail leased line.

3.18 In addition, we consider that SRMC (Option 3) is inappropriate for setting POH charges as this excludes those POH costs, which could be the majority, which are fixed in the short run. As noted in the January Consultation, POHs are frequently used over a long period of time. Charging on an SRMC basis for long-term use would mean that POH users would not face the true costs of their usage of POHs. We therefore believe that the short-run is an inappropriate time horizon for assessing POH costs.

3.19 In paragraph 3.33 of the January Consultation we stated that Options 1 and 4 were both consistent with cost causation in the long run. However we did not come to a view whether one was superior to the other and stated that the other principles of cost recovery needed to be assessed before a conclusion could be reached.

3.20 We do not agree with BT that Option 1 is more consistent with cost causation by virtue of including common costs in charges. Common costs are by definition not caused by the provision of a single product or service like POH, but are caused by the provision of a group of services. For consistency with the cost causation principle, costs should be recovered from services within the group to which they are common, but do not have to be recovered from any one service. Hence we concluded that both Option 1 and Option 4 were consistent with cost causation.

3.21 Regarding Verizon’s comments on giving more weight to cost causation, Section 5 of the January Consultation in conjunction with Section 3 discussed the options with regard to the section 88 tests. We do not believe, in this particular case, that the section 88 tests and the six principles of cost recovery give conflicting views. In addition the point Verizon makes about the “primacy” given to cost causation was considered in the LLCC appeal and rejected by the CC as set out in paragraphs 5.90 to 5.93 of that determination.[39]

3.22 The CC said:

> *“…the mere fact that Ofcom generally gives prominence to the principle of cost causation does not demonstrate any error on Ofcom’s part either. Indeed, C&W’s citation from Ofcom’s LLCC Statement is incomplete. Ofcom did not simply state that it ‘gave prominence to “cost causation”’. Rather, in the LLCC Statement, Ofcom had explained that, while it generally gave prominence to the principle of cost causation, it also gave consideration to a wider set of principles because it was alive to the possibility that there might be grounds to depart from what it regarded as the main principle of cost causality in specific circumstances, including where wider cost recovery*

[39] See the CC decision at http://www.competition-commission.org.uk/appeals/communications_act/cable_wireless_final_determination_excised.pdf

considerations such as competition effects were relevant. This qualification is an important one (and fortifies our conclusion as set out above), since this caveat accords with the need under section 88 for Ofcom to be satisfied, among other matters, that the setting of an SMP condition is appropriate for promoting sustainable competition. "

3.23 In the January Consultation we explained how we gave appropriate weight to all the principles, and that the effective competition principle was a significant factor in leading us to propose that the new POH charges should be set on the basis of LRIC. We do not agree with Verizon that we have applied the principles incorrectly nor that we have had insufficient regard to the legal tests.

Cost minimisation

Assessment in the January Consultation

3.24 We considered that the way the options affected the incentives on CPs to use POH efficiently was likely to be more important to our assessment than cost minimisation, because we could use the price cap to give BT an incentive to minimise costs whichever option for the recovery of additional POH costs is adopted. We therefore attached a higher weight to the cost causation principle than to the cost minimisation principle in this case. We noted that Options 1 and 4 were consistent with the principle of cost causation but Options 2 and 3 were not. We thought Option 4 was, to the extent that there was any material difference, preferable to Option 1 on cost minimisation grounds. Taking the two principles together, we believed they suggested that charges should be based on LRIC (Option 4). CPs would then face the costs which they cause and can effectively minimise, but not BT's overheads which they largely cannot influence.

3.25 We asked stakeholders the following question:

Question 2: Do respondents agree with our analysis of cost minimisation and with our view that we should give more weight to cost causation?

Stakeholder comments

3.26 BT argued that the use of FAC was just as effective an incentive for cost minimisation as an approach based on LRIC and indeed that the recovery of common costs from other products weakened the cost minimisation incentives under Option 4.

3.27 The majority of other respondents agreed with our analysis. C&W, however, stated that the RPI control would only give BT an incentive to minimise costs if the starting charges were efficient from the outset. C&W noted that without cost efficient migration options (which it considered did not currently exist), cost minimisation was not "within the gift of CPs". It stated that if migration charges were beyond the scope of this review, then Ofcom should seek a voluntary change to the charges from BT or consider suspending the charges for a defined period to enable CPs to restructure their network without being penalised by migration charges.

Ofcom's response

3.28 We do not agree with BT's point about the recovery of common costs from other products weakening the cost minimisation incentives under Option 4, at least when compared to Option 1. Given the demands of CPs, cost minimisation incentives are likely to be stronger the greater the share of costs borne by BT and the less it is able to pass on to CPs. Under Option 4 common costs are recovered from services which both BT and CPs use rather than one which only CPs use. As such there is a slight advantage to Option 4 over Option 1, but this is small because efficiency incentives are also provided by the RPI-X price cap mechanism.

3.29 As stated in paragraph 3.37 of the January Consultation, although allowing BT to recover fixed costs may reduce incentives to minimise these costs, it does provide a better signal to CPs in terms of promoting efficient use of POHs, in line with the section 88 tests (set out in Section 2 above). However, allowing BT to recover a share of common costs, as with Option 1, will weaken their incentive to minimise costs, thus Option 4 is marginally superior.

3.30 Regarding C&W's comment that the RPI control regarding BT's incentives to minimise costs works best when the starting charges are efficient from the outset, we believe that by implementing Option 4, this makes the charges more efficient. In terms of the migration charges we note that these are not within the scope of this review and consider that the appropriate place to look at such charges would be as part of the BCMR and any potential remedies and charge controls to be set as part of that review.

Distribution of Benefits

Assessment in the January Consultation

3.31 We said that the main beneficiaries of POHs are the POH users themselves. We therefore considered that Option 4, under which POH users would bear the LRIC of POHs, was most consistent with the distribution of benefits principle. We noted that inclusion of common costs in charges, as under Option 1, was not necessarily inconsistent with the distribution of benefits principle. However, in the case of the additional POH costs, we believed that some weight should be given to possible benefits to competition from lower POH charges. For this reason, we considered Option 4 might be more clearly consistent with the distribution of benefits principle than Option 1. In the absence of strong externalities, we considered there was unlikely to be a good case for pricing below LRIC on distribution of benefits grounds and hence Option 3 was unlikely to be preferable to Option 4. Similarly, absent strong externalities, we considered that Option 2 would not be consistent with the distribution of benefits principle.

3.32 We asked stakeholders the following question:

Question 3: Do respondents agree that Option 4 is most consistent with the distribution of benefits principle?

Stakeholder comments

3.33 The majority of respondents agreed that Option 4 was most consistent with the distribution of benefits principle. However BT felt that Option 1 more closely aligned with this principle because it ensured that those who benefited from a POH paid "the full cost of its provision".[40] BT stated that Ofcom had not made a clear case that Option 4 was more consistent with the distribution of benefits principle than Option 1. This was because, in BT's view, Ofcom elevated one type of benefit, enhanced

[40] BT's response to the January Consultation, p.12, http://stakeholders.ofcom.org.uk/binaries/consultations/points-handover-pricing/responses/BT.pdf

competition, over the benefits to POH users (the "direct beneficiaries"), and our conclusion was in any case tentative. BT argued that because POH users are relieved of their contribution to common cost, it follows that others are faced with a larger burden.

Ofcom's response

3.34 BT in effect makes two distinct points. Firstly, it implies that POH users do not pay the "full cost of provision" under Option 4, and secondly it claims that Ofcom has given more weight to indirect benefits (arising from competition or other externalities) than to direct benefits. We respond to these in turn.

3.35 The first of these two points is related to our earlier discussion of the cost causation principle. We explain above that, under Option 4, additional POH charges will be set on a LRIC basis and this means that users will pay for all the additional costs caused by their demands. As LRIC is a long run cost concept, it includes costs which might be fixed in the short run. In our view, POH users can be then be said to pay the full cost of provision of POH under Option 4. The difference between Option 4 and Option 1 is that, under Option 1, POH users also contribute to the recovery of BT's common costs through the additional POH charges.

3.36 This brings us to BT's second point, which is closely related to the principle of effective competition discussed below.

3.37 As BT says, where we control charges for (one-way) access services, we generally set them on the basis of FAC, which includes an allowance for common cost recovery. Most such services are however consumed both by BT and by other CPs. The inclusion of common costs in charges which are paid by both BT and other CPs then allows such costs to be recovered in a competitively neutral way from the direct beneficiaries, the users, of such services. But because the additional POH charges are paid only by CPs other than BT, including common costs in them is not competitively neutral. Setting the additional POH charges on a LRIC rather than on a FAC basis reduces the cost disadvantage faced by CPs and so tends to be pro-competitive. Enhanced competition will benefit all PPC users, so giving weight to the benefits of competition then lends support to Option 4 over Option 1, other things being equal. It does not mean that we have given *greater* weight to benefits arising from increased competition than to direct benefits, but it does indicate that we have given *some* weight to them. The conclusion that Option 4 is more consistent with the distribution of benefits principle then reflects the significance of the additional POH charges for competition and the fact that the benefits of enhanced competition are enjoyed widely, not just by the users of POH.

3.38 Under Option 4, common costs are recovered from all leased lines, including those supplied by BT Retail. POH users will therefore continue to contribute to common cost recovery through their purchases of PPCs, but on a more equitable and proportionate basis than if they also had to contribute through the additional POH charges. So although the contribution made by BT (or its customers) may increase slightly if Option 4 is chosen, the result will be that the way common costs are recovered reflects better the distribution of benefits principle. As such we consider that Option 4 is consistent with this principle and has the advantage that BT and CPs now make a more equal contribution to the recovery of common costs.

Effective Competition

Assessment in the January Consultation

3.39 We considered that calculating additional POH costs on a LRIC basis was most consistent with the principle that the mechanism of cost recovery should not undermine or weaken the pressures for effective competition (see paragraph 3.50 of the January Consultation). We believed that, compared to Option 1, the lower charges would reduce the disadvantage which other CPs faced relative to BT. But, by requiring other CPs to bear the long run incremental costs caused by their demand for POH, the competition which would develop was more likely to be "effective" competition, by which we meant competition that in the long term minimised the costs incurred in delivering services and therefore the prices to consumers.

3.40 We asked the following question about our analysis.

Question 4: Do respondents agree that Option 4 is most consistent with the effective competition principle?

Stakeholder responses

3.41 BT stated that both Options 1 and 4, if properly implemented, were consistent with effective competition, because they did not encourage inefficient entry. C&W agreed that Option 4 was most consistent with this principle and stated that it believed the materiality to be greater than suggested, particularly if Ofcom adopted the changes suggested by C&W to the Ofcom bottom-up model. These suggestions are discussed in greater depth in Section 4 below. Other respondents agreed that Option 4 was most consistent with the principle of effective competition.

Ofcom's response

3.42 As discussed in paragraph 3.53 of the January Consultation, other CPs are naturally at a competitive disadvantage to BT, because BT does not require POHs in order to provide retail leased lines. We noted that this does not mean we should choose an option purely on the basis of the benefit it offers CPs, but on the basis of its impact on effective competition as defined in paragraph 3.50 of the January Consultation.[41] As such, we consider that setting charges on the basis of FAC will place CPs at a greater disadvantage than setting them at LRIC.

3.43 We agree that both Option 1 and Option 4 could discourage inefficient entry, but Option 4 will do more to encourage efficient entry, particularly entry which is efficient in the long term as a result of the promotion of competition. It will do so by only facing CPs with charges calculated on the basis of LRIC. We consider a move to Option 4 to be more consistent with the promotion of effective competition.

Practicability

Assessment in the January Consultation

3.44 We said that the mechanism for POH cost recovery needed to be practicable and easy to implement. We noted that Option 1 was the current approach and experience

[41] "competition which will benefit consumers by bringing down costs and prices and which will be sustainable in the long-run, where competition takes place on the merits".

suggested it was practicable. BT is able to provide FAC data and this could readily be used to set charges: there is no practical difficulty provided the data is fit for purpose. As such, we noted that neither Options 1 nor 2 creates any particular practicability problems.

3.45 In terms of Option 4, during the appeal, we identified some practical difficulties which would arise if we did not use FAC to set POH charges. We stated that any attempt to "isolate" POH charges which was not objective, that is, which was not based on objectively observable differences between POH and other services, would inevitably result in disputes and claims that other services should be treated in a similar manner. We also identified a further difficultly, the risk of gaming.

3.46 Having considered those practical difficulties further, we believed that, while they were genuine concerns, they were not insuperable obstacles to setting POH charges on a basis other than FAC (see paragraph 3.76 of the January Consultation). We nevertheless noted that, if we rejected Option 1, such a change to our pricing principles may need to be extended to all POH services and we said we would consider this matter further in our next review of leased line markets and reflect our conclusions in any potential remedies and price controls introduced as a result of that review.

3.47 We identified a number of other issues regarding practicability which arose under Option 4. We noted that the available LRIC estimates were only approximate and there were some issues with those. For example BT estimated the LRIC of the additional POH costs by applying LRIC/FAC ratios to its FAC estimates for the additional POH costs. We had some concerns with that approach.

3.48 We considered the alternative of using a bottom-up approach. We said a bottom-up approach could be well suited to producing estimates of incremental costs but we noted that to achieve this we would need to rely, in part, on charges from BT's Carrier Price List ("CPL")[42] for some key inputs and those may include some overheads. Therefore we noted we had to estimate an appropriate LRIC/Price ratio for those services. We applied that factor to the inputs which come from the CPL. These were discussed in greater depth in Section 4 of January Consultation.

Stakeholder comments

3.49 Respondents generally agreed with our analysis. BT, however, argued that Option 1 was the most practical approach and questioned the appropriateness of our calculation of LRIC costs. C&W believed that the charges should be set on the basis of a bottom-up LRIC model, because it considered this was the most practical solution to derive appropriate, fair and transparent charges. One respondent agreed with the analysis but wanted further information on the LRIC/Price ratio used.

Ofcom response

3.50 Whilst we accepted that practical issues may exist in building a bottom-up model, we demonstrated the practicability of Option 4 by calculating a set of charges on a LRIC basis using our bottom-up model created for this purpose.

3.51 We responded to BT's specific comments regarding the appropriateness of our calculation of LRIC costs in paragraph 2.83 of the June Consultation, and further in Section 4 below.

[42] Or Openreach's price list, depending on the particular service in question.

3.52 Regarding further information on the LRIC/Price ratio used, we described our approach in paragraphs 4.24 to 4.29 and A6.7 to A6.14 of the January Consultation, and we discuss it further in paragraphs 4.102 to 4.110 below.

Conclusions on cost recovery approach

Assessment in the January consultation

3.53 We said that the charges under Option 1 were based on FAC and paid for by CPs and that this was the current methodology used. This was consistent with the principle of cost causation, it followed the distribution of benefits principle, although less closely than Option 4 and it was practicable. However we considered that this option left CPs at a greater competitive disadvantage, relative to BT, than the other options.

3.54 We said that BT would have a relatively strong incentive to minimise costs under Option 2. However, in the current circumstances we believed that there was not a good case for adopting Option 2 in order to promote competition, given that it would be inconsistent with the other principles, particularly that of cost causation.

3.55 We rejected Option 3 because we believed that a long-run rather than a short-run measure of cost was appropriate. We believed that CPs should bear all the costs caused by their demand for POH in the long run, and that the options most consistent with this were Option 4 and Option 1.

3.56 We noted that compared to Option 1, Option 4 was marginally superior in relation to cost minimisation, in that it would not allow overheads to be passed on in POH charges, and so would increase BT's incentive to minimise them. More importantly, we considered it would also promote effective competition by decreasing the cost disadvantage faced by CPs compared with Option 1 and, moreover, would do so without sacrificing consistency with the cost causation principle, unlike Options 2 and 3. However, Option 4 had some practical disadvantages compared to Option 1. The most important one of these was the lack of reliable LRIC data. But provided we could find a usable approximation to LRIC we believed we should adopt Option 4.

3.57 We asked the following question:

Question 6: Do respondents agree with our analysis of the four options?

Stakeholder comments

3.58 BT considered that Option 1, cost recovery on a FAC basis, aligned most closely with Ofcom's cost recovery principles and was superior to, and a more proportionate response than the proposed LRIC approach (Option 4). It considered that it was consistent with the CC's determination and was a preferable option because it was based on recorded costs which are derived from BT's regulatory costing system, making it the most reliable approach. It noted those costs were consistent with those used by Ofcom to set the LLCC so it would ensure consistency across the regulated product base. BT also noted that using fully cost-reflective charges would also ensure that competition was not founded on special protection for a particular type of entrant, service or user, and hence was likely to be superior for dynamic efficiency.

3.59 BT noted that our proposed approach departed from other methods of charging. For example it highlighted that Ofcom recently concluded in favour of using FAC in the

Wholesale Broadband Access Charge Control[43] (also noting that it had been supported by the CC in its determination of the appeal on Local Loop Unbundling).[44] BT believed there should be very strong reasons for departing from a top down approach particularly because of the loss of regulatory certainty. It argued this approach conflicted with Ofcom's own policy objectives, i.e. "to provide regulatory certainty for BT and its customers and to avoid undue disruption".

3.60 The other CPs all supported, or were comfortable with, the LRIC cost recovery approach. C&W noted it supported an approach to POH charging which removed unnecessary cost barriers which restricted a level competitive playing field and it considered that any of Options 2, 3 or 4 would meet this objective. Global Crossing also agreed that Option 4 seemed to be the best match for meeting the objectives of the review. C&W also argued that Ofcom's consideration of a move to LRIC pricing should be accompanied by a wider review of all POH charges moving to a LRIC basis in the forthcoming BCMR.

3.61 Global Crossing also suggested that if Option 4 was implemented, then in future an additional requirement should be imposed on BT to capture accounting information suitable for future LRIC calculations from the earliest possible date.

Ofcom's response

3.62 We consider that Option 4 is more appropriate than the other options in that it is more consistent with the section 88 tests and all the six principles of cost recovery than the other options.

3.63 As discussed above, and in paragraphs 3.14 to 3.33 of the January Consultation, we believe that both Options 1 and 4 meet the cost causation principle. However as Option 4 more closely aligns with the principles of effective competition, distribution of benefits and, less materially, cost minimisation we believe it to be, in this case, superior to Option 1.

3.64 We accept some of BT's points regarding the general practical advantages of FAC, although as we describe in the next section, in the case of additional POH charges, we also found significant weaknesses in BT's FAC data. However, the claimed practical advantages of FAC should not be an overriding consideration if a practical approach to implementing the other options is available. We have shown that a LRIC approach is also practical through the implementation of charges calculated using our bottom-up model.

3.65 We do not agree that the LRIC approach amounts to special entry assistance or that FAC is superior for dynamic efficiency: setting additional POH charges on a LRIC basis means that CPs pay the full costs they caused to be incurred (but no more) and so promotes the effective competition which is most likely to enhance efficiency and benefit consumers in the long run.

3.66 Although Ofcom has set the majority of price controls on the basis of FAC, we do not believe that there is a general rule for always choosing such a cost standard and, where the analysis points to using a different and more appropriate cost standard, then this should be applied. A key point in the present case is that, unlike most

[43] Paragraph 5.59 in "Proposals for WBA charge control", Consultation document, Ofcom, 20 January 2011,http://stakeholders.ofcom.org.uk/consultations/wlr-cc-2011/

[44] See the CC's decision in "The Carphone Warehouse Group plc v Office of Communications", August 2010, case 1111/3/3/09 (the "LLU decision"), http://www.competition-commission.org.uk/appeals/communications_act/completed_cases.htm

controlled charges, the additional POH charges are only paid by other CPs and not by BT. As indicated in the January Consultation, we will consider whether a LRIC approach should be extended to other POH services, and other leased line services, as part of any consideration of remedies and price controls to be set as part of the BCMR (see Section 2 above).

3.67 Regarding the point made on implementing an additional remedial requirement in order to confirm the accuracy of the estimated LRIC data, because we are using a bottom-up model approach rather than using BT's top down model, we do not believe that this additional requirement is necessary.

Ofcom's final decision

3.68 Therefore, having considered the responses to the January Consultation and for the reasons outlined above, we have decided to implement Option 4, a cost recovery approach on a LRIC basis.

Section 4

Consultation responses on cost estimates and Ofcom's response

Introduction

4.1 In Section 4 of the January Consultation we set out our approach to estimating the level of the additional POH costs which BT should recover and our proposed additional POH charge control to recover these costs. We also provided a more detailed analysis of BT's cost estimates and discussion of our bottom-up model in Annexes 5 and 6 of the January Consultation. We asked for stakeholder comments on our estimates of BT costs and our proposed new charge control.

4.2 As outlined in paragraph 3.3 above, we received six responses to the January Consultation. In Section 2 of the June Consultation we responded to stakeholder comments from the January Consultation on our cost estimates and modelling and presented revised proposals for the POH charge control. We requested stakeholder comments on our updated assumptions.

4.3 We received four responses to the June Consultation.[45] We have taken account of these responses in reaching our decision.

4.4 In this section we have first provided a high level summary of our approach and proposals in the January Consultation as well as stakeholders responses to that consultation. We have then set out a more detailed assessment of each of the issues raised and our response in two sections:

i) Firstly, we have addressed the specific stakeholder comments on issues which we did not address in the June Consultation, in particular BT's own cost estimates, our use of a bottom-up model to set the charges and BT's pricing structure; and

ii) Secondly, we have outlined in more detail the revised proposals in the June Consultation, stakeholders' responses to the consultation and our response to those comments.

4.5 Finally, we have summarised our final decision on the appropriate POH charge control.

The January Consultation: our assessment and proposals

4.6 Section 4 of the January Consultation specifically set out:

- BT's estimates of the additional POH costs and our review of the main assumptions and variables used in the BT models;
- our own estimates of the additional POH costs to be recovered;

[45] All the non-confidential responses are available on our website here: http://stakeholders.ofcom.org.uk/consultations/revision-points-handover-pricing/?showResponses=true

- our views on BT's current charging structure; and
- our new proposed additional POH charge control.

4.7 Based on our analysis, we proposed that:

- the new charges for recovering additional POH costs should be based on LRIC estimates derived from our own bottom-up model,[46] which we considered to be more robust than the LRIC estimates provided by BT;
- based on our bottom-up model, we estimated that the costs of providing additional POH costs were between £3.5m and £4.1m on a LRIC basis, with a central estimate of £3.8m[47]; and
- Type I POH charges should be reduced immediately to LRIC, while Type II charges should be aligned with LRIC in two stages, with half the adjustment occurring upon publication of our statement (or very shortly thereafter), and the other half occurring on 1st April 2012.

4.8 In accordance with the above, we proposed that the charge control on BT for additional POH services should be as shown in the Table below.

Table 2: Proposed additional POH charge control in the January Consultation

Type I POHs (£ per POH)	**SMA-1**	**SMA-4**	**SMA-16**	**Bearer**
BT current charges	£3,435.27	£5,108.81	£8,151.42	£338.07
Proposed charges (Summer 2011)				
- Lower estimate	£616	£716	£2,028	£381
- Central estimate	£648	£753	£2,135	£401
- Upper estimate	£680	£791	£2,242	£421
Type II POHs (£ per circuit)	**Sub 2M**	**2M**	**34M**	**155M**
BT current charges	£103.31	£175.63	£888.47	£1,652.96
Proposed charges (Phase I-Summer 2011)				
- Lower estimate	£119	£202	£1,020	£1,898
- Central estimate	£125	£212	£1,074	£1,998
- Upper estimate	£131	£223	£1,128	£2,098
Proposed charges (Phase II-April 2012)				
- Lower estimate	£139	£236	£1,196	£2,226
- Central estimate	£146	£249	£1,259	£2,343
- Upper estimate	£154	£261	£1,322	£2,460

Stakeholder responses to the January Consultation

4.9 We received comments from BT, C&W, Verizon, Global Crossing and Virgin Media. These included comments on our proposed general approach to charges, our proposed estimates and modelling assumptions and our approach to phasing in increases to Type II charges.

[46] Available here: http://stakeholders.ofcom.org.uk/consultations/points-handover-pricing/
[47] Based on latest POH volumes as of September 2010.

4.10 Below we have addressed stakeholder comments on specific issues which we did not respond to as part of the June Consultation, in particular:

- BT's estimates for the additional POH costs and alternative approaches to estimating the additional POH costs on a FAC basis;
- the Ofcom bottom-up model; and
- BT's charging structure.

BT's estimates for the additional POH costs

Assessment in the January Consultation

4.11 In the January Consultation we reviewed BT's cost estimates in detail and our findings were summarised in paragraphs 4.8 to 4.45 and Annex 5. Specifically we reviewed BT's original model and set out our understanding of the key assumptions. We highlighted our concerns with the model and examined BT's model outputs to assess their reasonableness.

4.12 We noted there were significant variations in the outputs of BT's model over time despite volumes being kept constant. In the original BT model costs fluctuated from £6.7m in 2006/07 to £13.7m in 2008 to £8.6m in 2009. Some of the movement was due to an increase in accommodation costs for 2008/2009 possibly down to a one-off provision made by BT for the costs of rationalising accommodation. Whilst the movement in underlying costs (such as accommodation) accounted for some of the variance, BT offered no objective reasons for such significant variances.

4.13 In response to our concerns BT produced two alternative models: an Adjusted Depreciation Model and a Mux Count Model. In relation to the alternative models, we noted that there was still some underlying fluctuation remaining in the cost estimates. According to BT, it was not possible to disaggregate these costs further in a meaningful manner to obtain a full explanation of the movement.

4.14 We also noted (paragraphs 4.13 to 4.15) that:

- The 'Adjusted Depreciation' approach removed some of the fluctuation observed in the cost estimates in BT's original models, but implied unusually long asset lives (e.g. 60 years for 16x2 PDH POHs);
- The 'Mux Count' approach counted the total number of multiplexers (or "muxes") (and those related to POHs) recorded in its engineering systems. BT then apportioned the total SDH/PDH[48] plant group costs to POHs based on the number of POH muxes as a percentage of the total. The proportion of POH muxes is only around 3-4% of the total mux number. Given the nature of the approach and lack of granularity in the costing system, the resulting POH costs might not be representative of actual costs; and
- Both new approaches resulted in more costs being apportioned to Type I POHs than Type II POHs when compared to BT's original model (see Table 3 below).

[48] POHs can be provided using either Synchronous Digital Hierarchy (SDH) or Plesiochronous Digital Hierarchy (PDH) technology. See the Glossary in Annex 2 for an explanation of these terms.

BT agreed that the split of these costs in the new approaches was somewhat inconsistent with the underlying costs of the relevant technology.

Table 3: Ratio of Type I to Type II POH costs as per BT's various approaches

Approach (%)	2009/2010	2008/2009	2007/2008
Original BT model	1.1	1.4	1.6
Adjusted Depreciation approach	2.0	1.9	2.1
Mux Count approach	6.7	5.8	5.2

Stakeholders comments

4.15 Though we did not ask a specific question in the January Consultation about our assessment of BT's cost data, we received several comments. BT noted that its costs were derived from its regulatory costing systems and that where models are based on actual, incurred costs they would be the most robust and reliable. It noted that these costs were consistent with the costs Ofcom had used to set the LLCC and, that by using these costs, Ofcom would ensure consistency across the regulated product base. BT argued that top down cost estimates tended to be higher than bottom-up costs models as they included all costs, which bottom-up models invariably failed to do.

4.16 BT noted that Ofcom had concluded that BT's cost model was not sufficiently reliable because there were some remaining unexplained fluctuations. It argued, however, that year to year variability in costs was a natural, expected feature of a total absorption costing system and did not mean that the underlying costs were unreliable. It argued there were sound economic reasons for variability in costs and the interactions between the variables mean that it is not always possible to pinpoint the reasons for such cost changes. It noted the variability was driven by:

i) volatility in input costs: for example BT noted that fuel prices were highly volatile;

ii) changes in the incurred costs levels: it noted that cost efficiency programmes could lead to variability in costs where there are up-front costs followed by savings in later years;

iii) volume and mix variances: BT argued that costs allocated at a granular level depended not only on the volume of the product in question, but also on the volumes of other products sharing the platform, which could cause changes from year to year in the percentage of cost allocated to POH;

iv) changes in the allocation basis and in accounting practices: BT noted that it continually reviews its allocation methodologies and those changes would influence the level of costs shown against an individual product or product set; and

v) changes in the realisation of efficiency gains: BT noted that the speed with which efficiency gains are made varied from year to year, which impacted on total costs.

4.17 C&W, however, stated that it had little faith in BT's own model. It argued that the incentives of greater profits and higher costs for competitors directed BT to find a higher level of costs or methodologies that resulted in higher costs.

Ofcom's response

4.18 We note that BT has offered general observations as to why fluctuations of costs could occur, but it has not demonstrated how these observations (for example, fuel price movements) specifically accounted for movements in POH costs.

4.19 In the January Consultation (see paragraph A5.13) we noted that the amount of costs by category allocated to POHs was very small compared to the total value of those cost categories. For example, accommodation costs for POHs for 2009/10 were around £2-3m representing 0.3% of the total Wholesale Services accommodation costs of £711m in BT's RFSs in 2009/10. Therefore, small changes in the allocation basis for accommodation could lead, in part, to the volatility we had observed in the results.

4.20 However, whilst we take into account BT's argument that costs could fluctuate for a number of reasons, it is difficult in practice to be sure how these fluctuations flow through BT's model and if the movements in underlying costs are distorted because of insufficient granularity in BT's reporting for POH.

4.21 In addition, BT has not addressed our observations that the apportionment of costs between Type I and Type II POHs and the asset lives in BT's alternative model do not look reasonable. Therefore, irrespective of underlying cost movements, we remain concerned about the reliability of the method used to produce POH top down estimates and consequently the outputs of BT's models.

The Ofcom bottom-up model

Assessment in the January Consultation

4.22 In the January Consultation, as well as checking the BT models in detail, we also developed our own bottom-up model to estimate the level of the additional POH costs on a LRIC basis. We then cross-checked the results of the Ofcom model against BT's estimates of the costs based on its top-down models.

4.23 We noted that one of the key advantages associated with estimating costs based on a bottom-up model was that it allowed us to focus on the costs which directly related to the provision of POHs and the danger of including irrelevant items was reduced compared to a top-down approach.

4.24 We recognised that there could be some drawbacks to relying on a bottom-up model in that it might omit key cost items. We considered we had mitigated against that issue by cross-checking the output from our bottom-up model against BT's top-down estimates and inviting BT and CPs to comment on the model.

4.25 We asked the following question:

Question 11: Do respondents agree that we should use our own bottom-up model to set the level of the additional POH costs to be recovered?

Stakeholder comments

4.26 BT did not support Ofcom's use of a bottom-up model and had a number of concerns about Ofcom's approach. It considered that bottom-up models invariably omitted some costs, thereby providing a cost estimate that was biased downwards. It believed that such models were a theoretical construct and rested on the premise that there was an absolute level of cost attributable to a product, whereas BT believed there was no absolute level of costs, because in any business costs vary and move around from year to year. It noted that the use of a bottom-up model did not change the fact that all costs had to be recovered, for example new equipment might take up less space in an exchange than the previous technology but that exchange space realised could not immediately be re-used. BT argued that in a bottom-up model, costings based on the space requirements of new equipment did not take account of such a lag and therefore failed to reflect actual costs incurred.

4.27 BT believed there should be very strong reasons for departing from a top down approach, including consideration of the impact on regulatory certainty which it considered Ofcom had failed to demonstrate. It also argued that it was inappropriate to use current costs to set POH charges because it undermined efficiency incentives, i.e. to the extent that the costs of POHs had been reduced, using current costs removes an allowance for efficiency gains BT has made since 2007/8 amounting to a reopening of the current charge control.

4.28 Other CPs supported Ofcom's approach. C&W considered Ofcom had created an appropriate bottom-up model. It stated that the cost categories included were relevant, the costs found within them could be tracked and audited to credible cost sources. Global Crossing also agreed with the use of a bottom-up model.

4.29 BT reiterated its arguments against the use of a bottom-up model in response to the June Consultation. It stated that it was not possible to itemise all items of costs in a bottom-up model, e.g. pensions, vehicles, supervision etc. It noted that if the common costs of POH were not recovered through POH charges, they would have to be recovered through other products or services, which could create distortions elsewhere.

Ofcom's response

4.30 We note BT's concerns about the use of a bottom-up model, however, we consider that our approach has enabled a reasonable estimate of the POH costs and is based on the most up to date information available. In order to take account of the concern that some costs may have been omitted we have taken an upper estimate to some of the costs involved.

4.31 In general, we give significant weight to creating incentives to reduce costs when setting a charge control. With an RPI-X approach, prices may be allowed to remain above costs for a time to allow BT to benefit from efficiency gains. There is however a trade-off in that there is some sacrifice of allocative efficiency from prices being above costs. It is therefore another advantage of the bottom-up model that, since it is not based on BT's own POH costs, BT's incentives to reduce them are preserved. We also note the potential for the competition and allocative efficiency benefits of the new approach to be reduced if we set charges on the basis of out-of-date costs as BT suggests. In this case the trade-off is clearly in favour of setting charges at current LRIC.

4.32 We also note that we have not reset or tightened the overall RPI-X control which remains at RPI-1.75%. The reduction in POH charges will count towards the overall charge reductions in PPC charges required for compliance with the RPI-1.75% basket constraint.

Review of BT's charging structure

Assessment in the January Consultation

4.33 As part of the LLCC Statement we required BT to implement an improved charging structure which incentivised migration from Type II to Type I POHs, on the basis that the latter allowed more efficient POH utilisation. The details of this charging structure were set out in paragraph 4.50 of the January Consultation. In the January Consultation we also considered alternatives to the current structure and whether to make BT's charges more granular.

4.34 We noted that whilst Type I POHs only used SDH technology, Type II POHs could be based on either PDH or SDH technology. We noted that the majority of costs for Type II POHs were attributable to PDH POHs[49] and therefore we considered whether there was a need to further differentiate Type II charges between SDH and PDH POHs. We noted that such a differentiation would make charges more cost reflective and could also promote efficiency if it induced migration to the more efficient SDH POHs. However, we noted evidence from industry suggesting that such migrations were unlikely to happen in practice and that it might be unfair for users of PDH POHs to be penalised through higher prices when they were not responsible for the original choice in technology.

4.35 Another option we considered was whether we should determine a single charge for SDH POHs of a given capacity across Type I and Type II POHs (i.e. for example a single price for an STM-1 POH irrespective of whether it was a Type I or a Type II POH). We noted that this might appear reasonable because the same technology/equipment was used to provide a Type I and Type II SDH POH of a given capacity. However, we noted that the aim behind BT's current charging regime was to encourage efficient POH utilisations by incentivising migration to Type I POHs and that creating a set of charges averaged across the SDH POHs by capacity would not achieve that.

4.36 We also considered whether the bearer charge should vary by distance or be disaggregated further by type of POH. We noted that currently BT charged a fixed bearer charge for Type I CSH and ISH extension POHs[50], whilst the costs of the bearer for Type II POHs was included in the per circuit charges. We noted that in principle differentiating the bearer charge by distance might be beneficial because it could encourage CPs to locate closer to BT nodes. But in practice, we considered it seemed unlikely that CPs would respond by relocating their nodes, given the small scale of the likely savings.

4.37 Based on the reasoning summarised above, we therefore made the following proposals on BT's charging structure:

- no differentiation of Type II POH charges by technology;
- no single charge for all SDH POHs; and
- a fixed bearer charge.

[49] See paragraph 4.54 of the January Consultation.
[50] POhs have three physical implemenations which are In Span Handover ("ISH"), In Span Handover Extended ("ISH ext") and Customer Sited Handover ("CSH"). See the Glossary in Annex 2 for further explanation of these terms.

4.38 We asked the following questions about our proposals:

Question 12: Do respondents agree that we should not differentiate Type II POH charges between SDH and PDH technology?

Question 13: Do respondents agree that we should not set a single charge per SDH POH by capacity (irrespective of whether they are Type I or Type II)?

Question 14: Do respondents agree that we should not disaggregate the current bearer charge for Type I POHs further?

Stakeholder comments

4.39 BT, C&W and Global Crossing agreed that we should not differentiate Type II POH charges between SDH and PDH technology, and that we should not disaggregate the current bearer charge for POHs further. BT in particular agreed that we needed to avoid making charges overly complex and the important point was to have a price differential between Type II and Type I POH to give the incentive to migrate onto the more efficient POH. BT also agreed that POH charges should vary to reflect the size of the POH as the network management and exchange based costs are dependent on the capacity of the handover.

4.40 Global Crossing argued however, that it might not be appropriate to maintain the non-discrimination of Type II charges between SDH and PDH technology indefinitely since it might be more appropriate to incentivise CPs to migrate. It suggested a phased approach would be helpful, including a glide path over 3 to 4 years.

Ofcom's response

4.41 We note that all respondents agreed with our proposed pricing structure and we have therefore decided to maintain the pricing structure proposed in the January Consultation. We note Global Crossing's comments that a phased approach might encourage migration. However, this review is only considering the additional POH costs up until the end of the current charge control period (September 2012). We will consider our approach to POH charges as part of any remedies and price controls set as part of the BCMR.

Modelling assumptions in the Ofcom bottom-up model

4.42 In the January Consultation we split the cost components in our model into three major cost categories:

- Category 1 – Capital: the capital costs of duct, fibre and equipment spares;
- Category 2 – Operational: accommodation, power, air conditioning, maintenance, network management, monitoring and security; and
- Category 3 – Support: marketing and sales, design, installation, commissioning and customer support.

4.43 We set out the details of our assumptions in Annex 6 of the January Consultation. We briefly summarise these assumptions below, then summarise stakeholder responses.

4.44 Based on responses to the January Consultation, we updated some of our assumptions in the June Consultation. We set out a summary of our proposed changes to our bottom-up model in Table 3 of the June Consultation. In the following sections we discuss our original proposals, stakeholder responses and any updated proposals in the June Consultation before setting out our decision.

Capital costs – bearer, duct and fibre costs

January Consultation

4.45 In the January Consultation we discussed our approach to calculating capital costs in paragraphs 4.35 to 4.36 and, in particular for duct and fibre costs, in paragraph A6.19 to A6.20 of the January Consultation

4.46 Based on data provided by BT we used an average distance for a POH of 980m between the BT and CP nodes. We also assumed there were 240 fibres per duct. We then used Openreach prices for footway, duct, sub-duct and fibre (adjusted by our proposed LRIC/Price ratio of 70%[51]) to estimate the relevant total up-front costs of duct and fibre used in the provision of POH. We then converted this into an annual rental charge.

4.47 We asked:

Question 8: Do respondents agree with the inputs we have used to estimate the annual rental charge for the duct and fibre used in the provision of POHs? If not, please explain why and provide alternative data.

Stakeholder responses

4.48 We discussed stakeholder responses in paragraphs 2.15 to 2.22 of the June Consultation. In summary, the responses were:

- BT agreed with our approach;
- C&W agreed with the use of £80 per metre for duct but argued that we had included an unnecessary cost for sub-duct;
- C&W and Global Crossing argued that we should use a fibre cost representative of a 24 fibre cable rather than the four fibre cable used in our original model; and
- Verizon argued that Openreach's prices would include an allowance for the cost of capital and so we should not include cost of capital in our model.

4.49 We addressed each of these comments in the June Consultation (paragraphs 2.23 to 2.29).

Proposals in the June Consultation

4.50 We made a number of adjustments to our approach in the June Consultation as a result of the above stakeholder comments. We also included updates based on additional information provided by BT and, where appropriate, other CPs. In particular:

[51] See paragraphs 4.101 to 4.102 below for explanation of how we calculated this LRIC/Price ratio.

a) We removed the sub-duct contribution of £3.50 per metre as a result of updating the model to reflect the charges for fibre cable rather than blown fibre;

b) We agreed with stakeholder comments that the model should reflect the actual number of fibres used by a POH;

c) We agreed with additional information from BT that:

- Costs of spine fibre used for SDH POH should be based on a 48 fibre cable, that spine fibre for PDH POHs should be based on a 24 fibre cable and that the final drop blown fibre was already recovered through other charges and so should be excluded. We also noted the comments from C&W and Global Crossing that the model should be based on a 24 fibre cable. We noted a cost of 15p per metre would be broadly consistent with the data provided by BT on its valuation of fibre and therefore updated our model to use this figure.

- Our previous estimate of 240 fibres per duct reflected the maximum fill which would not always be achieved. We therefore updated the model to reflect the latest data from BT. This showed that an average fill of 164 fibres per duct was more realistic. We then included an allowance for 10% of these fibres being unused/sterilised, giving a figure of 148 fibres per duct.

- Some costs would be incurred by in-building tie-cable runs. We used a Cablelink product as a proxy (because there was no appropriate proxy in the Openreach price list) and included a tie cable rental figure of £24 per year for each POH.

- The location of the ISH footway box might be further away from the BT building than the 10m assumed in our original estimates. We noted that BT had suggested a figure of 50m and that varying the length of that connection had a minimal affect on the model. Therefore we proposed to use the 50m figure suggested by BT.

d) We also updated our model to include the latest fibre lengths data provided by BT:

- for ISH we increased the distance to 50 metres;

- for ISH extended we increased the distance to 1503 metres; and

- for CSH we increased the distance to 1503 metres of spine fibre plus 622 metres of access fibre.

4.51 We then asked the following question about our revised approach:

Q1: Do you agree with our revised proposals for the capital costs, in particular the annual rental charges for duct and fibre? If not, please explain why and provide alternative data.

Stakeholder comments

4.52 C&W, Global Crossing and Verizon agreed that Ofcom's general approach to these costs was appropriate.

4.53 Global Crossing and C&W queried the tie cable rental cost. Global Crossing had concerns that the approach of using a 50m average for the distance between an ISH footway box and the BT building could be significantly inaccurate. It noted that it was normal practice to build the footway box as close to BT's premises as possible, and it considered that the 100m maximum distance cited by BT was an extreme case. It suggested that we should ask BT for more data on this point. It believed that the figure was likely to be between Ofcom's original suggestion of 10m and BT's claim of 50m, and it argued that 30m would be more reasonable. It therefore suggested that a more reasonable charge for the rental of a tie cable would be below £15 rather than £24. C&W also considered that the tie cable costs should be reduced to recognise that these will be shared by a greater number of services and a proportion of the £24 estimated would be a better reflection of costs. It accepted, however, that this change would not be material overall.

Ofcom's response

4.54 We note Global Crossing's argument appears to refer to the ISH distance rather than the tie-cable charge, which are not related. In any case, although we recognise Global Crossing's argument, given that a change to this figure would not have a material effect on the cost estimates, we do not consider it would be proportionate to ask BT for further data on this point. We also note C&W's arguments about the tie-cable charge. Again however, and as noted by C&W, the effect of changing these estimates is minimal. Therefore whilst we recognise that there may be merit to these arguments, we have not sought the additional data necessary to revise our estimate of costs because there would be no material difference to the final charges.

4.55 In reviewing BT's data on the number of fibres per duct, we noted that BT had divided the total duct length allocated to fibre by the total length of spine fibre. This led to an estimate of the number of fibres per duct at 164. However, this includes duct allocated to blown fibre as well. We have considered adding the length of blown fibre to the length of spine fibre in the calculation to rectify this. BT suggested that should we do this, we should revisit the 10% allowance for fibres that are unused/sterilised because typically there will be a higher proportion of unused fibres in blown fibre cables than in the spine. BT suggested this could be as high as 50% unused/sterilised for blown fibre giving a combined figure for unused/sterilised fibres of around 15%.

4.56 The figure we are estimating is the fill of spine ducts. In the model we do not include blown fibre and related duct in our capital costs (as these are recovered through other charges) and we separately calculate blown fibre maintenance costs. Therefore, including blown fibre and related duct in our calculation may lead to an incorrect assessment of the fibre count per duct in the spine. Further, whilst we agree with BT that blown fibre may be utilised less than spine fibre, we would expect unused fibre to be less than 50% to account for cases where POHs use all four fibres, cases where multiple POHs use the same blown fibre cable and cases where other services use the blown fibre cable.

4.57 Therefore, we have used instead the data provided by BT to estimate the percentage of the duct that is used by blown fibre. We have assumed that the percentage of duct assigned to spine fibre versus blown fibre will be the same as the percentage of fibre that is spine fibre versus that which is blown fibre. Whilst we think this may over-estimate spine duct (because spine ducts carry more fibres) we do not have more granular data and we consider that it would be disproportionate to request this from BT, since the impact on the overall additional POH costs is likely to be very small.

4.58 This approach leads to an updated estimate of the number of fibres per duct at 189. We then apply a 10% factor to account for unused/sterile fibre. We note that using a 15% factor as suggested by BT would lead to an increase in costs of around £13k per annum and as such is not significant.

4.59 We have therefore decided to maintain our approach to calculating the duct and fibre estimates as set out in the June Consultation, but have corrected the estimate to reflect the number of fibres per duct as set out above.

Operational costs – Accommodation, maintenance and network management

4.60 We included three sets of costs within the overall category of operational costs. These were accommodation, maintenance and network management. Whilst we identified these three separate sub-categories we asked one question in the January Consultation:

> *Question 9: Do respondents agree with the inputs we have used to estimate the operational costs associated with POHs, especially in relation to network management costs? If not, please explain why and provide alternative data.*

4.61 We received comments on each of the three areas. We discuss them separately below.

Accommodation charges

January Consultation – Accommodation charges

4.62 We set out our proposed approach to operational costs in paragraphs 4.37 to 4.42 of the January Consultation. We also specifically addressed accommodation related costs in paragraphs A6.21 to A6.23. We used Openreach's published prices for LLU Plan and Build (adjusted by our proposed LRIC/Price ratio of 70% where appropriate). We used the average of the seven different rack charges and eight different DC power options set out in Openreach's published price list. We calculated the demand for space and power by estimating the size and power consumption of the relevant SDH and PDH equipment, which we verified against information gathered from CPs under formal powers.

January Stakeholder responses – Accommodation charges

4.63 We received a number of comments from stakeholders on our approach to accommodation costs, as well as additional information from BT (see paragraphs 2.31 to 2.38 of the June Consultation). In summary:

- BT argued that the rack footprint factor of 3.85 did not include any allowance for fixed common costs so accommodation costs should be treated as incremental and the 70% ratio should not be applied;

- BT also made several points in relation to power.

  - back-up power should be included; and

  - AC Power Supply rental (shown on the Openreach price list as £348 per 10kW) was also required to deliver a power supply from the mains supply to the operational room. This cost should be considered to be incremental, meaning that the LRIC/Price ratio should not be applied.[52]

- Finally, BT suggested that we had applied inappropriately a LRIC/Price ratio to a number of other accommodation related operational costs, including air conditioning and DC power;

- C&W considered that the approach to obtaining a rack charge should assume that BT would make the most efficient decision when designing and building its network, so that the lowest (per unit) of the various rack and power charges would apply; and

- Verizon was concerned about the use of the Openreach price list as a proxy for the space and accommodation costs incurred in providing the PPC POHs because, as BT Wholesale does not consume these products on an equivalent basis, costs which are not relevant to the services in question may be incorrectly included and therefore the true costs might well be substantially lower. It noted that the application of the LRIC factor might abate some of these costs but it believed that analysis had not been done to assess whether the LRIC factor would remove all such costs included in the Openreach LLU products. Verizon also questioned whether Ofcom had chosen the most efficient option from the Openreach products.

4.64 We addressed these points in the June Consultation (see paragraphs 2.39 to 2.47).

June Consultation – Accommodation charges

4.65 As a result of the above stakeholder comments in response to the January Consultation we made a number of revisions to our approach in the June Consultation, in particular:

a) We included a charge for back-up power and AC power rental using the Openreach price (and applied the LRIC/Price ratio to that charge) following comments from BT that these charges had been excluded from the original model. We noted however, that these two changes, in the absence of the other proposed changes, had a minimal effect on the overall additional POH charges;

b) We agreed with comments from BT that it was incorrect to apply the LRIC/Price ratio to the power usage charge. We updated the model to reflect this point, although again noted that this had a minimal impact on the overall charges;

c) We removed the accommodation rack charges, which we noted were in fact one-off installation charges and were therefore included within the POH connection charges;

d) We included an annual charge for the licence fee per square metre in Openreach's LLU accommodation charges, which we noted had previously been excluded from the Ofcom model. We used data from BT on the average charge per square metre per annum, which was £68.40;

e) We reassessed the charge used for power. We noted C&W argued that the lower cost option should be used because BT could always be expected to

[52] BT referenced the Openreach LLU price list, sections 2.1.1 "Accommodation AC Final Distribution Rental per 10kw increment per annum".

achieve the most efficient level of operation. However BT argued that because forecasting future demand was difficult, the most efficient solution might not always be achieved. To account for that we used the second lowest charge, rather than the lowest, which was 9p per watt (after the LRIC/Price ratio was applied); and

f) We accepted arguments from BT that there may be some costs incurred from air cooling. We therefore included the cost of the initial installation from the Openreach price list (reduced by the LRIC/Price ratio) and assumed this would be recovered over ten years. We then added in a cost of the power to run the air conditioning, based on the same power charges as for the POH equipment.

Stakeholder comments – Accommodation charges

4.66 C&W agreed with our general approach to accommodation costs. However, on the use of back-up power, it highlighted that backup power was not available at all sites and was finite. It noted that there were 100 exchange sites which Openreach had announced had a lack of additional power and that CPs using those sites may not therefore have access to the backup generator power.

Ofcom's response – Accommodation charges

4.67 We note that there may be some exchanges which do not have access to back-up power. However, it is not clear that these would be the same sites that provide POHs. We also note, in any case, that a change to our estimate for back-up power would have no material difference on the overall POH charges.

4.68 Therefore, given that stakeholders broadly agreed with our approach to accommodation costs, we have decided to maintain the estimates we proposed in the June Consultation.

Maintenance

January Consultation – Maintenance

4.69 We discussed maintenance costs in paragraphs A6.24 to A6.32 of the January Consultation. We estimated a mean time between failure ("MTBF") for each constituent part of a POH multiplexer to calculate the probability of a part failing in one year. We calculated the engineering call-out costs by assuming a time to repair and an average engineers' rate of £50 per hour. We also estimated the number of duct faults per year, assuming a duct fault rate of one fault per 100km per year. Based on these assumptions, we calculated the costs of repairing a POH duct as £0.23p per annum. This figure was based on our assumed POH distance of 980 metres and was applied to all ISH extended and CSH POHs. We did not apply it to ISH POHs.

January stakeholder responses - Maintenance

4.70 We received a number of comments from BT in particular about our assessment of maintenance costs. As well as questioning the engineering call out rate BT also, in a supplementary response, argued that the fibre maintenance rates had been seriously underestimated and that the equipment MTBFs for PDH equipment had been overestimated which led to costs being underestimated. This data argued:

- that fibre maintenance costs should be higher and that blown fibre maintenance costs should be included. BT estimated the (notional) fibre cost so that a notional depreciation charge could be calculated and the direct maintenance costs derived from that value. It said those calculations showed incremental fibre maintenance costs of £113 per Type 1 and £109 per Type II POH respectively. BT argued that these estimates reflected the costs actually incurred in maintaining the access fibre network; and

- BT also provided data on the number of PPC faults in order to estimate the fault rates on 4x2 and 16x2 equipment. It noted that its analysis of actual fault reports showed the annual rate of faults per Local End equipment box was around 10% per year for 2Mbit circuits (and around 9% for 64k circuits). BT therefore argued that the MTBF for the POH equipment should be amended to 10 years in Ofcom's equipment maintenance calculations, compared to our initial estimates of 50 years for the 4x2 equipment and 20 years for the 16x2.[53]

June Consultation - Maintenance

4.71 In response to BT's comments, we examined the additional data it had provided, which we discussed in paragraphs 2.52 to 2.54 of the June Consultation.

4.72 Based on responses to the January Consultation and the data subsequently provided by BT we made several revisions to our approach to estimating maintenance costs in the June Consultation proposals, which were as follows:

a) We did not agree with BT's proposed engineering rate of £110, however, we slightly revised our previous estimate and used a rate of £55 (to take account of the latest data available to us on hourly rates for engineers carrying out similar tasks);

b) We accepted BT's arguments that the costs of bearer maintenance in the January Consultation were very low, although we did not consider that its proposed alternative approach to estimating those costs was appropriate. We therefore reconsidered the data from BT from a different angle. We noted that the data showed that the majority of bearer maintenance costs would be related to maintenance of the final drop of a CSH connection into the CP's premises. Based on our estimates of the engineering rates and times to repair bearers, we noted that BT's estimate of the annual fibre maintenance cost suggested an MTBF of approximately 20 years for the access section of a POH. We considered that this was a reasonable assumption for fibre faults and therefore used this in our bottom-up model; and

c) We accepted data provided by BT in relation to the circuit failure rates was broadly correct. We used this to calculate a failure rate of an individual PDH element (using the total number of PPC failures, detailed SDH element failure information to remove SDH circuit faults , and an average fill factor) as 12.8 years. We used that 12.8 years for both the 4x2 and 16x2 equipment.

[53] It noted that these estimates did not include other costs relating to faults not found, and items such as extreme weather events and malicious damage and that although these events were rare they did increase the costs that BT incurred to maintain the service.

Stakeholder comments – maintenance charges

4.73 BT argued that using a £55 per hour engineering rate only represented direct costs and made no allowance for overheads such as supervision, training or leave entitlements. It considered that those factors increased the unit cost by a factor of 20%. BT maintained that the cost included by Ofcom was considerably lower than the external benchmark cost in BT's price list for comparable work and therefore was an underestimate of the true cost incurred.

4.74 BT also argued that the maintenance costs we had used for the bearer appeared to focus solely on the cost of reinstating and repairing the duct, but did not consider the costs incurred in repairing the fibre within the duct. It therefore considered that there were a number of activities and costs which were missing from the estimation of the bearer maintenance costs, including;

- customer service support and engineering effort expended in locating the fault within the bearer (BT noted that these costs would normally be included with support costs but Ofcom's support cost estimate appeared only to include product management costs, see paragraphs 4.88 to 4.100 below for further details on support costs);
- opening up the relevant cable joints, removing the damaged section of fibre and replacing the section with new fibre;
- the stores cost of the replace fibre and duct;
- where there was a fault in the access fibre end, a new blown fibre being provided; and
- the cost of travelling to attend the fault.

4.75 BT said its data showed that if only direct costs associated with fibre maintenance were included, the direct incremental costs of fibre maintenance were around 80% of the depreciation costs and indirect costs were a similar amount. It considered this meant that BT's estimate of the fibre maintenance costs included only around 50% of the fully allocated costs of that activity. BT argued that Ofcom's cost estimate for the maintenance of the spine fibre used to provide CSH and ISH was therefore considerably underestimated due to the failure of the bottom-up cost model to identify all the relevant costs incurred in maintaining the fibre bearers.

4.76 All the other respondents agreed with our approach to maintenance charges.

Ofcom response – maintenance charges

4.77 We noted in the June Consultation (see paragraph 2.55) that we did not consider BT's engineering rate in its price list was necessarily a relevant benchmark for the incremental costs of a wholesale repair service, because it was unregulated and there was no requirement for it to be based on incremental costs. We note that BT has not provided evidence to demonstrate that an uplift of 20% is reasonable. The estimate of £55 does include travel costs and we consider, based on the latest data available to us, that it is consistent with the hourly rates for engineers carrying out similar tasks and we have therefore decided to maintain this estimate.

4.78 As we set out in the June Consultation, whilst we did not fully agree with BT's assessment of direct costs, we used its data to develop a reasonable basis for calculating direct costs of bearer maintenance. We note BT's arguments about the indirect costs associated with fibre maintenance. We do not agree, however, that these indirect costs should be included within our estimate. There is no clear evidence that they are part of the incremental costs of providing additional POHs. Under our approach, costs that are excluded from the specific POH charges (which are paid only by CPs) can be recovered across the TI basket through charges that are also faced by BT. These costs therefore end up being recovered in a competitively neutral way.

Network Management

January Consultation – Network Management

4.79 As set out in paragraphs 4.41 and A6.33 of the January Consultation we estimated network management costs as 23% of operational costs.

January stakeholder responses – Network Management

4.80 We received a number of comments from both BT and CPs on the network management costs. BT argued that Ofcom's model had not included network management costs for Type I POHs but that this should be included. All other CPs argued that the 23% figure was too high, although none were able to provide evidence to support a lower figure.

4.81 We discussed the responses in detail in paragraphs 2.63 to 2.68 of the June Consultation.

June Consultation – Network Management

4.82 As a result of the above comments we reviewed our approach to network management. BT also provided additional data on its network management costs in response to the stakeholder comments. Its data indicated that the ratio of network management to operating costs was 27%, 27% and 17% for the last three years respectively.

4.83 Based on the responses, and the additional data from BT, we made the following revisions to our modelling:

a) We included network management costs within the Type I charges. We noted that we had originally excluded those cost from the Type I charges because we had understood them to be part of the separate maintenance charge. However, in the light of BT's comments, we noted that the BT maintenance charge did not closely align with the cost calculated by the bottom-up model;

b) We corrected an error in the assignment of network management charges to different POH types which was brought to light by the above adjustment. Specifically in the original model, CSH POH did not attract double the network management charge of ISH as we would expect and we therefore updated the model to ensure that was reflected; and

c) We reduced the network management costs to 17% of operating costs. We noted that there was a general consensus from CPs that the figure of 23% was too high. However, we noted that because of the lack of data it was difficult to estimate an appropriate figure to apply to POH. We noted that the additional data from BT indicated that the most recent figure was 17% and so, in the absence of other data, proposed to use this figure.

4.84 We asked the following question:

Q2: Do you agree with our revised approach and estimates for the operational costs, in particular the network management costs associated with POHs? If not, please explain why and provide alternative data.

Stakeholder comments – Network Management

4.85 BT argued that using the figure of 17%, which was the figure from the last year in a time series, was not a sound approach. It noted that it had provided three years of data on the operational costs represented by network management, which showed that the average of the last three years was 23%. It considered that Ofcom had taken the last data point rather than the average based on a 'hunch' by other CPs that a figure of 23% was too high. It argued that Ofcom should use the accepted approach of using an average, in the absence of any evidence from other CPs that it should be lower.

4.86 C&W however, continued to question whether incremental costs for POH network management were identifiable. It considered that network management costs were largely fixed and unrelated to changes in overall network volume, in particular given the low volumes of PPC POH compared to the overall BT network. It believes there is a compelling case to set this value for PPC POH rental charges to zero. Global Crossing also suggested that this area could be worthy of further investigation to ensure cost orientation has been maintained.

Ofcom response – Network Management

4.87 We do not agree with BT that taking an average of a series of data is a more generally accepted approach than using the latest data. We recognise C&W's arguments that these costs could in fact be significantly lower, however, as we noted in the June Consultation, we do not agree that such costs can simply be regarded as zero or immaterial and in the absence of alternative data we consider that using the latest data from BT is the most appropriate approach. We have therefore maintained the 17% figure in our model.

Support costs

January Consultation

4.88 In paragraphs 4.43 to 4.45 of the January Consultation we discussed support costs. We estimated that a dedicated team of three people (Full Time Equivalents or "FTEs") would be sufficient to cover the POH sales and marketing activities. We estimated that the annual costs, including overheads, would be £300k.

4.89 We asked:

Question 10: Do respondents agree with the inputs we have used to estimate the support costs associated with POHs? If not, please explain why and provide alternative data.

Stakeholder responses

4.90 We discussed stakeholder responses in paragraphs 2.74 to 2.75 of the June Consultation. We summarise the responses below.

4.91 BT disagreed with our proposed approach for estimating the support costs, arguing that Ofcom had taken a theoretical approach and therefore some elements of costs had been excluded. It argued that its calculations were based on actual incurred costs.

4.92 All other CPs argued that our estimates were too high:

- C&W said its understanding was that PPCs as a whole had two full time product managers in BT Wholesale and POH was only a relatively small part of that. It recognised that there were some other admin costs such as pricing, but it considered that prices should only need to be updated once per year and did not require anything close to a dedicated person just for POH. It considered that the incremental demand for support costs for POH would be no more than one FTE in aggregate.

- Global Crossing suggested that the majority of support needed was a consequence of numerous billing and procedural problems for which BT should be meeting costs.

- Verizon did not see how any sales and marketing resource could be incremental to POH, because it was not a product or service which could be bought on its own and should properly be considered to be incremental to the whole PPC product.

4.93 Based on these responses we reconsidered support costs in the June Consultation.

June Consultation proposals

4.94 In addition to the responses above, BT subsequently supplied some additional information on its support costs (see paragraphs 2.74 to 2.79 of the June Consultation). BT argued that:

- in practice it was difficult to identify specific individuals with a specific activity;

- resources in operations, legal, regulatory, product line, finance and billing, human resources, procurement, and call centres would all be involved in some form or another to provide support to the POH activity, in addition to the product managers;

- based on the regulatory accounts, support costs amount to around 9% of costs (once a LRIC/Price ratio had been applied) and this supported the estimate of £300,000 per annum (and suggested that these costs may have in fact been underestimated); and

- if POH did not exist, up to six FTEs could possibly be removed.

4.95 In response to these stakeholder comments and BT's additional data, we considered that three FTEs was likely to be too high, because we were focussing on the additional POH charges which were only one element of the POH products and charges. Based on our discussions with CPs, as well as consideration of the number of people working in the specific PPC product team within BT currently (three) plus a reasonable allowance for incremental labour in the other areas such as billing and finance, we proposed that a figure of one FTE should be used (at £100k per annum).

4.96 We asked the following question about our approach:

Q3: Do respondents agree with our revised estimate for the support costs associated with POHs? If not, please explain why.

Stakeholder comments

4.97 BT strongly disagreed with Ofcom's proposal to cut the number of FTEs by two thirds from three to one. BT noted that in its experience support costs were frequently observed to be around 10% of turnover and this was consistent with our original estimate of support costs in the January Consultation. It believed Ofcom had only included product management costs and not taken into account other costs such as sales and account management, customer service, billing, commercial finance, legal, regulatory and systems development.

4.98 BT noted that there had also been significant regulatory and legal costs associated with POH in the past few years, because of charge controls, market reviews and appeals. It argued that an estimate of three FTEs was much more appropriate to take account of these additional costs. It also argued that we had not taken into account the impact of the new set of POH products on the volume of activity and hence support costs. It maintained that Ofcom should keep its original estimate of three FTEs.

4.99 C&W, Global Crossing and Verizon, however, all agreed with the reduction of support costs to one FTE.

Ofcom's response

4.100 We note that BT has not made any new arguments, or provided any additional evidence, to demonstrate that support costs should be higher. As we noted in the June Consultation, we accept that resources outside of the product management team will be needed to support POH. However, we also noted that our model was focussed on the additional POH costs, which is only one element of the POH products and charges. We note that BT has not addressed this point in its response. We therefore consider that the estimate of one FTE is sufficient to cover the incremental component of resource needed to support additional POH charges, including the incremental labour in the other areas such as billing and finance.

Other cost issues

4.101 In the June Consultation we discussed two other issues related to costing – LRIC/Price Ratio and the Weighted Average Cost of Capital ("WACC"). We discuss these below.

LRIC/Price Ratio

January Consultation

4.102 In the January Consultation we used Openreach's published charges for some items and in order to convert these published charges to LRIC, we applied a suitable LRIC/Price ratio. We considered two different options for that ratio:

- Option 1: Use a LRIC/Price ratio based on BT's view of the LRIC for the additional POH costs; or

- Option 2: Use a LRIC/Price ratio which is more consistent with the published charges used as inputs in the Ofcom model.

4.103 We proposed to implement Option 2. We looked at the different services reported in the LLU co-mingling market and considered that MPF[54] Hostel Rental and Tie Cables were the most appropriate proxy services for the costs we were trying to estimate. We noted that the revenue-weighted average LRIC/Price ratio for those two services was 69.6% and we therefore proposed to round that figure up and use a LRIC/Price ratio of 70%.[55]

Stakeholder responses

4.104 BT submitted a number of arguments against our use of a LRIC/Price ratio. In particular BT argued that we should have used a LRIC/FAC ratio rather than a LRIC/Price ratio. It also argued that Ofcom's choice of 70% as the LRIC/Price ratio was unreliable because it had been highly volatile over recent years. BT recommended using the LRIC/FAC ratio for 2Mbit/s links of 85% to 90%.

4.105 Verizon also questioned whether Ofcom's methodology of calculating costs using Openreach prices as an input risked 'double-counting' the allowable costs of capital.

4.106 We responded to these comments in paragraphs 2.83 to 2.84 of the June Consultation.

June Consultation

4.107 In paragraph 2.83 of the June Consultation we rejected BT's arguments on the basis that because we were starting from published prices and seeking to calculate LRIC figures, it would be inappropriate to use a LRIC/FAC ratio. We noted that where we had estimated costs from other data we had not applied the ratio.

4.108 In paragraph 2.84 of the June Consultation we said that we thought the use of the LRIC/Price ratio was the best available and most proportionate way to estimate specific costs from published charges. In relation to Verizon's specific point related to Excess Construction Charges ("ECCs"), which we use to calculate the cost of providing duct, we noted that the costs which Openreach recovers through these will be largely made up of the costs of the sub-contractors that physically carry out the work. Whilst Openreach may add a mark-up on these to cover any additional costs it incurs, it is unlikely to need to make significant capital investments in fixed assets, even if there is some requirement for working capital. Therefore we did not consider that our approach would materially over-estimate costs.

Stakeholder responses

4.109 Verizon noted that given the changes proposed for the WACC and the use of the LRIC/Price ratio, its previous concerns about the possibility of double-counting the allowable costs of capital were now not likely to be material and it therefore supported our proposal.

[54] "Metallic Path Facility"

[55] See paragraphs 4.24 to 4.29 of the January Consultation, we also provided more detailed explanation of our calculations in Annex 6, paragraphs A6.7 to A6.14. See BT's Regulatory Financial Statements in 2009/10, p.55.

Ofcom's response

4.110 Given that we received no additional comments on our use of the LRIC/Price ratio we have decided to maintain the 70% figure and have applied this to all published charges used as inputs to our model.

WACC

June Consultation

4.111 In the June Consultation (see paragraphs 2.85 to 2.86) we noted that although no stakeholder had specifically commented on our approach to the WACC, we considered it was appropriate to adjust the rate we had used in the January Consultation. We noted that we had used a rate of 9.3% in the January Consultation, which was the nominal pre-tax WACC for the "rest of BT" in order to convert some up-front costs to an annual equivalent.[56]

4.112 We proposed that, in fact, it was more appropriate to use the corresponding real WACC, because inflation was allowed for through the RPI ("Retail Price Index") terms in the charge control basket constraint and sub-caps. We noted this meant that the charges we set did not need to allow for the effect of future inflation on the value of investments in duct and other assets. We therefore proposed an adjusted cost of capital at 5.8%.[57]

4.113 We also noted that we intended to update the WACC we had used, if necessary, to reflect any updated figures that resulted from our analysis within the WBA charge control project.

Stakeholder responses

4.114 BT disagreed with our proposal to use a real terms WACC in place of a nominal one. It argued that all the costs within our model were based on outturn or nominal costs as currently experienced. BT noted that because the charges were being set only for one year, a nominal WACC needed to be used, otherwise there was a risk that too low a level of cost will be recovered to provide an adequate return to providers of capital. It believed the POH model did not consider holding gains and losses, meaning that assets were being treated as having a constant value in nominal terms. It therefore considered that either the nominal WACC should be used or an allowance made for the real terms holding loss that results from the erosion of the real terms value of the capital base caused by inflation. BT considered that Ofcom's proposed approach would not be consistent with our approach to other charge controls and said "it was at odds with the principle of consistency enshrined in Section 3(3)(a) of the Act".[58]

[56] This WACC figure was derived from the WBA Charge control consultations, see paragraph A6.6 of the January Consultation.
[57] The figure of 5.8% was derived from the nominal pre-tax weighted average cost of capital for the "rest of BT", the rate of inflation which we assumed to be 2.5% per annum and the rate of Corporation tax which we assume to be 25%. All these figures were shown in Table 6.3 of "*Proposals for WBA charge control*", 20 January 2011, p.83. This table also shows the corresponding real post-tax cost of capital of 4.4%.
[58] See p. 7 of BT's June Consultation response, available here: http://stakeholders.ofcom.org.uk/binaries/consultations/revision-points-handover-pricing/responses/BT.pdf

Ofcom's response

4.115 We do not agree with BT's arguments that it would be appropriate to use the pre-tax nominal WACC in the bottom-up POH model. We agree that it can be appropriate to use the pre-tax nominal WACC in the type of model BT describes in its response, in which charges are set to generate a return on (forecast) capital employed at least equal to the WACC after taking account of a consistent measure of holding gains and losses. Financial forecasting models of this type are frequently used in setting the value of X in an RPI-X charge control. But the bottom-up POH model is not a financial forecasting model of this type. In the POH model, the cost of capital is used to convert the up-front costs of duct and fibre into an annual equivalent in real terms using a standard annuity formula.

4.116 As we have calculated the equivalent constant annual payment for additional POHs in real terms, the initial value is allowed to increase over time to compensate for the effect of inflation and preserve its real value. POH charges have hitherto been subject to an RPI-0% sub-cap which has this effect and, as we described in the June Consultation (and discussed further below), we have made an appropriate allowance for inflation in setting the POH charge ceilings to apply in the final year of the control. Including RPI terms in a charge control constraint allows the charges at the start of the control to rise each year by an amount necessary to account for general inflation.

4.117 We also note that an assumption that duct costs are constant in nominal terms (which BT suggests could be an alternative to the use of the nominal WACC) is unlikely to be appropriate. We discussed the range of reasonable indexation approaches to duct costs in Annex 5 of the "Charge Control Review for LLU and WLR services", which we published in March this year.[59]

4.118 We therefore think the use of the real pre-tax WACC is appropriate to the method of calculation used in the bottom-up POH model. We also note that the current control on POH and other leased line charges ends in September 2012. As noted in Section 2, we are currently reviewing the leased lines market as part of the BCMR and we will be likely to look again at POH charges as part of any potential remedies and charge controls set as part of that review.

4.119 We said in the June Consultation that we would update the cost of capital we used to reflect any revised figures published in the WBA CC statement when we finalised our assessment of the additional POH charges (see paragraph 2.86 of the June Consultation). The WBA CC statement was published on 20 July 2011.[60] Table 6.3 of that statement shows revised figures for the pre tax nominal WACC and pre tax real WACC for the rest of BT at 9.7% and 6.5% respectively. We have therefore updated our final proposals for the additional POH charges to reflect these revised values.

Other issues raised in response to the June Consultation

4.120 In the June Consultation we asked the follow question about our overall approach:

> *Q4: Do you have any additional comments on our cost estimates and modelling approach? In particular do any of our proposed changes to the modelling change any previous response you provided to the January Consultation on any issues not raised directly in this consultation?*

[59] http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/annexes/wlr-cc-annexes.pdf
[60] http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf

Stakeholder responses

4.121 C&W noted that within section 8.1 of BT's Carrier Price List there was a list of rental charges for re-designated and grandfathered CSH. C&W said it was their understanding that those charges are no longer relevant as costs are recovered via the new PPC POH charges. It asked for confirmation from Ofcom that these other charges for grandfathered equipment were no longer to be charged.

4.122 Global Crossing set out concerns that BT has been open to the potential for over recovery of costs across its line of business in ECCs. It also noted that it favoured the use of the Consumer Price Index ("CPI") as a more accurate and relevant measure of inflation than the RPI. It noted it has also made this point in response to other consultations and asked whether a review of Ofcom's standard methodology was appropriate.

Ofcom's response

4.123 We can confirm that grandfathered charges and current additional POH charges are superseded by the charges by bandwidth that we have calculated on the basis of our bottom-up model.

4.124 We note Global Crossing's comments on ECCs but consider these to be outside the scope of this review of POH pricing. In terms of its comments on the use of CPI as opposed to RPI, we considered this issue as part of the WBA CC and concluded that RPI was an appropriate measure, noting it was an established way to provide regulated firms with incentives to adopt new technologies and therefore seek efficiency savings whilst passing on some of the cost savings to consumers.[61]

Bringing the charges in line with LRIC and timing of implementation

January Consultation

4.125 In the January Consultation we considered three options for bringing the Type I and Type II POH charges into line with LRIC:

- **Option A**: reduce the price of Type I POHs whilst keeping Type II charges unchanged.
- **Option B**: reduce price of all POHs by the same % amount; and
- **Option C**: bring Type I and Type II charged into line with costs.

4.126 We considered that Option C was the most consistent with promoting efficiency but noted that a key question was one of timing, i.e. should the charges reflect their LRIC estimates now, or should the price changes be phased in over a certain period?

4.127 In the January Consultation we proposed that Type I POH charges should reduce to LRIC immediately, whilst Type II POH increases should be phased. We considered that the phased increases of Type II POH charges would allow CPs to put in place the necessary pass-through mechanisms for price changes, and if, necessary, make changes to their own network plans. We also proposed to waive the requirement on

[61] See paragraph 4.9. p.44: http://stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf

BT to provide 90 days notice of a change to a charge, or a structure of the charge in respect of the price changes we had proposed.

4.128 We asked the following questions about our proposed approach:

Question 15: Do respondents agree that we should implement the additional POH charges as set out under Option C1, where we have proposed a one-off decrease in Type I POH charges to LRIC, whilst Type II POH charges are increased to LRIC in two phases?

Question 16: Do respondents agree that BT should be allowed to increase Type I POH charges by RPI-)% (between 1st October 2011 and 30 September 2012), whilst it is required not to excess the Type II POH charge levels proposed by Ofcom?

Question 17: Do stakeholders agree that the required notification period should be waived in respect of the proposed changes to Type I and Type II POH charges?

Stakeholder responses to the January Consultation

4.129 We outlined stakeholder comments on the above proposals in paragraphs 2.92 to 2.97 of the June Consultation. In particular we noted that BT strongly objected to the proposed phased approach, although CPs were broadly supportive.

June Consultation

4.130 Given the updated modelling assumptions as set out above, the proposed Type II POH charges were not subject to the same level of significant increases as we had proposed in the January Consultation. We therefore considered that it was no longer necessary to phase in the level of Type II charges, because we considered that they would not be disruptive to CPs or weaken competition. We also noted that the publication of our January Consultation, as well as the June Consultation, would have given CPs sufficient warning that there were likely to be price rises for Type II services and provided them time to prepare for any resulting changes in their network plans that might be necessary.

4.131 We therefore proposed to implement the new additional POH charges for both Type I and Type II services from 1st October 2011 and that they would apply until 30th September 2012. We said that the charges would not be increased (in nominal terms) during the final year of the charge control.

4.132 However, we noted that because we were proposing to set the charges for one year from October 2011, we needed to adjust them so that they reflect the average general price level for that year, because our inputs were based on current charges (for example charges from the Openreach price list as of 1 April 2011) which were likely to be updated during the year for which the charges we were proposing to set would apply. Therefore we proposed to adjust the charge to take account of inflation. We noted that we would use the official RPI figure from June to calculate the latest inflation level in our final statement.

4.133 Whilst we did not propose to reconsider our approach on the three options (as set out in paragraph 4.125 above) we also provided, at Annex 5 of the June Consultation, an update of the POH charges under the three different options for bringing the charges into line with LRIC in case CPs wished to review their responses on this point.

4.134 Taking our revised assumptions and modelling into account, we estimated that the additional POH costs were in the range of £2.7m to £3.4m on the proposed LRIC basis. We proposed that, if our final decision was to adopt a bottom-up LRIC approach based on our model (amended by the updated assumptions proposed in that consultation), the additional POH charge controls that should apply from 1 October 2011 to 30 September 2012 were:

Table 4: Ofcom's proposed additional POH charge control in the June Consultation

Type I POHs (£ per POH)	SMA-1	SMA-4	SMA-16	Bearer
Proposed charges				
- Lower estimate	£382	£453	£1280	£221
- Base case estimate	£402	£477	£1350	£232
- Upper estimate	£422	£501	£1415	£244
Type II POHs (£ per circuit)	**Sub 2M**	**2M**	**34M**	**155M**
Proposed charges				
- Lower estimate	£114	£193	£997	£1818
- Base case estimate	£120	£203	£1029	£1914
- Upper estimate	£138	£234	£1183	£2201

4.135 We asked the following questions on our proposed approach in the June Consultation:

Q5: Do you agree with our proposal to remove the phasing for Type II POH charges and to introduce both charges concurrently from 1st October 2011? If not please explain why.

Q6: Do you agree that BT should not be allowed to exceed the Type I and Type II POH charge levels proposed by Ofcom during the period 1st October 2011 and 30 September 2012?

Stakeholder comments

4.136 BT, and the other CPs agreed with our proposal to introduce both charges at the same time. Verizon, however, noted that Ofcom should be wary more generally of introducing one-off price increases for prices subject to a charge control, and these should be considered on a case by case basis, to ensure that CPs have sufficient time to manage their networks efficiently in order to operate competitively.

4.137 C&W, Verizon and Global Crossing also agreed that BT should not be allowed to exceed the charges set by Ofcom during the period from 1st October 2011 to 30th September 2012. BT considered, however, that it should have freedom within the regulated price control baskets to set prices consistent with those constraints. It argued that the changes to prices mandated on 1st October 2011 should count towards the basket requirements for the 2011/12 charge control year. It noted that the charges will be subject to existing sub-caps and it therefore considered there was no need to include an additional price constraint over and above those already in operation.

Ofcom's response

4.138 We do not accept BT's arguments that it should have the freedom to set POH charges to comply with the RPI sub-cap within the existing constraints of the basket. We do not consider it would be appropriate for BT to be able to raise the charges as soon as they come into effect. We noted in the June Consultation (see paragraph 2.100) that we had adjusted the charges to take account of inflation, in order to ensure that they reflected the average general price level for that year and this adjustment effectively replaces the sub-caps. We have updated the model to use the official figure for inflation from June of 5% (which is down slightly from the previous figure in May of 5.2%).[62]

4.139 However, we consider that the reductions in POH charges should count towards BT's compliance with the main Traditional Interface ("TI") basket cap and this will allow BT to recover any other excluded costs from other services within the TI basket in a more competitively neutral way.

Summary of final conclusions

4.140 As set out above, we have therefore concluded that the new charges for recovering additional POH costs should be based on LRIC estimates derived from our own bottom-up model.

4.141 We have considered stakeholder comments on the individual cost assumptions but have decided to, on the whole, maintain the cost estimates we presented in the June Consultation. We have, however, made some adjustments, as follows:

- we have updated the WACC to reflect the latest estimate presented in the WBA CC Statement (6.5%);
- we have used a figure of 189 fibres per duct (as a result of a correction of an error in BT's data); and
- we have used the latest figure for inflation of 5% (down from the previous figure of 5.2%).

4.142 We therefore now have calculated the additional costs of providing POHs as £2.9m, based on our bottom-up model, which is within the £2.7m to £3.4m range on which we consulted in June.

4.143 This results in the following charge control:

Table 5: The new additional POH charges

Type I POHs (£ per POH)	**SMA-1**	**SMA-4**	**SMA-16**	**Bearer**
New charges	£402	£477	£1349	£227
Type II POHs (£ per circuit)	**Sub 2M**	**2M**	**34M**	**155M**
New charges	£119	£203	£1027	£1910

[62] See: http://www.statistics.gov.uk/StatBase/tsdataset.asp?vlnk=229&More=N&All=Y

4.144 We have concluded that the charge control will apply from 1st October 2011 until 30th September 2012.

Section 5

Legal tests & duties and the implementation of the charges

Introduction

5.1 The aim of this section is to outline how our decision, set out in Sections 3 and 4 of this document, meets the requirements of our statutory duties in sections 3 and 4 of the Act and the legal tests in sections 88 and 47 of the Act.

5.2 This section also sets out how we will give effect to the new additional POH charge control we have discussed in Section 4 by an amendment to the relevant charge control conditions we imposed on BT in the LLCC Statement.

Our decision

5.3 In Section 3 we outlined our decision that additional POH costs should be recovered on a LRIC basis.

5.4 In Section 4 we set out our decision that:

- the new charges for recovering additional POH costs should be based on LRIC estimates derived from our own bottom-up model;
- based on our bottom-up model, we estimate that the costs of providing additional POH costs are £2.9m; and
- the charge control will apply from 1st October 2011 until 30th September 2012.

Our decision is consistent with our statutory duties

5.5 In the January Consultation, in Section 2,[63] we set out how we had taken account of our general duties under Section 3 of the Act and the European Community requirements for regulation in Section 4 of the Act and we consider that the decision we have now taken does not impact on that assessment. We noted that in considering the options for the assessment of the additional POH costs, and in particular by ensuring the prices for additional POHs were cost reflective, we were taking into account our principal duty to further the interests of citizens and consumers in relevant markets, where appropriate by promoting competition.

5.6 We also noted that, with regard to the six European Community requirements for regulation[64], we had taken these into consideration in recommending our proposed approach and in particular we focused on the promotion of competition and encouraging network access and service interoperability, which are particularly relevant when considering POH costs and charges.

[63] And also in Section 2 of the June Consultation, paragraph 2.106.
[64] Which are: to promote competition; to contribute to the development of the internal market; to promote the interests of all EU citizens; not to favour one type of network, service or associated facility over another; to encourage network access and service interoperability in order to promote efficiency and competition; and, to encourage compliance with relevant international standards.

Our decision meets the section 88 and 47 tests

Section 88 tests

5.7 For the reasons set out in paragraphs 5.8 to 5.17 of the January Consultation (and paragraph 2.108 of the June Consultation), we consider that the additional POH charges we are imposing are appropriate for promoting efficiency, for promoting sustainable competition, that they confer the greatest possible benefits on users of public electronic communications services and that they ensure the correct incentives for investment and innovation are set. We have outlined our reasoning in further detail below.

Efficiency

5.8 We consider that basing the additional POH charges on recovery of LRIC costs is appropriate for promoting efficiency.

5.9 Under the LRIC pricing approach, CPs would only pay for costs they cause to be incurred in the long run, rather than contributing to the recovery of any common costs. A LRIC pricing approach is also likely to promote cost minimisation, and therefore efficiency, in two ways: a) by not allowing overheads to be passed on in POH charges (which increases BT's incentive to minimise them) and b) by ensuring that CPs still pay for the direct costs they incur (which increases CPs' incentives to minimise costs).

5.10 In addition:

- We have set the charges on the basis of our latest estimates of the costs that are directly incurred in the efficient provision of POH services. The charges are set at such a level that they would recover a lower level of additional POH costs in total (i.e. the total additional POH costs to be recovered have decreased from the current level notified by BT in July 2010 of £6.7m to £2.9m based on the Ofcom model).

- The additional POH charges are included in the traditional interface ("TI") basket and subject to the overall cap of RPI-1.75%. Each additional POH charge is also subject to a ceiling for the remainder of the charge control period, which means that BT cannot increase charges. Both the overall TI basket cap and the safe-guard cap provide incentives for BT to minimise its costs and reduce static inefficiency.

- We have set the structure of charges in such a manner as to incentivise CPs to migrate from the less efficient Type II POHs, to the more efficient Type I POHs. We have achieved this by making charges more cost reflective whereby the rental charge for Type I POHs is lower than for Type II POHs provided CPs achieve the required level of utilisation.

Sustainable competition

5.11 We also consider that the new additional POH charges (based on recovery of LRIC costs) are appropriate to ensure sustainable competition because the costs incurred are recovered from those that cause them and the cost disadvantage that CPs face is decreased by a move to LRIC pricing. As we have discussed above, under a LRIC pricing approach CPs will only pay for costs they have incurred in the long run, rather than contributing to the recovery of any of BT's common costs. In addition, POH prices which are based on LRIC are likely to give the correct “build or buy” incentives to CPs, promoting sustainable competition.

5.12 We have also decided that both Type I and Type II POH charges will be brought into line with LRIC from 1st October, and will remain capped at this level until the 30th September 2012. We consider that because the Type II POH charges are not subject to the same level of increases we originally proposed in the January Consultation, introducing them as soon as possible will not cause any transitional problems for CPs.

Confers greatest possible benefits

5.13 The additional POH charges (based on recovery of LRIC costs) are also capped at a level which confers the greatest possible benefits on users of public electronic communication services. The total level of the additional POH costs has decreased (from the current level notified by BT in July 2010 of £6.7m to £2.9m).

5.14 Our decision to remove the phased approach to increasing Type II charges reflects the reduction in the Type II charges from the level originally proposed in the January Consultation. We consider that the price increases in the additional Type II charges will no longer be disruptive to CPs given the advance notification.

Investment matters

5.15 When capping the level of the additional POH charges we have also taken into account the need to ensure that BT has the correct incentives to invest and innovate:

- First, in modelling BT’s likely capital costs in relation to duct, fibre and equipment spares, we have built in a reasonable return on capital employed to provide an adequate return on BT’s investment.

- Second, by including the additional POH charges in the TI basket we have ensured that BT is rewarded for investment in new and more efficient technologies (as BT can keep any efficiency savings associated with new and more efficient ways of providing POHs).

5.16 It follows that, if BT is able to achieve cost savings over and above those we have assumed in setting our charge control this will mean a higher level of profitability. In other words, BT will be able to earn a rate of return above its cost of capital.

5.17 We have also taken account of investment by ensuring that CPs pay cost reflective charges and have the correct signals for investing in the right type of POH. We have achieved this by making the rental charge for Type I POHs lower than Type II POHs provided CPs achieve the required level of utilisation.

Section 47 tests

5.18 For the reasons outlined in paragraphs 5.18 to 5.27 of the January Consultation (and paragraph 2.109 of the June Consultation) we are satisfied that the new additional POH charge control (based on recovery of LRIC costs) meets the required section 47 tests. We have outlined our reasoning below.

Objective justification

5.19 BT's SMP in TI leased lines services allows it to set charges unilaterally and, in the absence of any controls, this would have adverse impacts on both the ability of companies to compete in the downstream provision of leased lines services and on consumer choice and value for money. By capping the additional POH charges we have required BT to deliver the lowest possible charges to competitors for the wholesale services, while ensuring that BT is able to recover costs, including a reasonable return on its investment.

5.20 Capping the additional POH charges at LRIC is also consistent with our pricing principles, in particular cost causation, cost minimisation and the promotion of effective/sustainable competition.

5.21 In addition, BT is not disadvantaged by our approach as, subject to compliance with its other obligations, it will be able to recover the common costs we have excluded through the price of other services in the TI basket. These are used both by CPs and by BT to provide retail leased lines.

Undue discrimination

5.22 We do not consider that capping the additional POH charges based on LRIC will unduly discriminate between BT and CPs because they are based only on the costs incurred as a result of other CPs demand for POHs and not BT's internal costs (as it does not require POHs in order to supply a retail leased line). We consider this is consistent with the promotion of sustainable competition.

Proportionate

5.23 The new additional POH charges are proportionate. They are focused on ensuring that there are reasonable prices for those access services, which are critical for sustaining a competitive market. We have ensured that BT is allowed to recover a reasonable return on investment. Moreover, we have capped the charges using the latest information available to us and have cross-checked our cost analysis against BT's own estimates of the costs and ensured that they do not under-recover efficiently incurred costs.

5.24 For the reasons set out above we consider that the additional POH charge controls pursue our policy objectives (set out in paragraph 2.15) and the means employed to achieve those aims are both necessary and the least burdensome.

Transparent

5.25 Finally, for reasons discussed above, we consider that the additional POH charge control and its aims and effects are transparent. We discussed our (and BT's) estimates for the additional POH charges in detail in both the January Consultation and, in relation to the proposed price caps, in the June Consultation, as well as in this statement. We also published the Ofcom model that we used to calculate the additional POH charges. Moreover the modifications to the affected SMP Conditions (as set out in Annex 1) are clear in relation to what they are intended to achieve, particularly when they are read as a whole with the SMP Conditions being amended.

Implementation of the new additional POH charges

The new additional POH charges are included in the TI basket

5.26 In Section 6 of the January Consultation we outlined our proposed approach for implementing the new additional POH charge control. We noted that as part of the LLCC Statement we had decided to impose a single TI basket including all traditional interface ('TI') terminating and trunk segments and that the additional POH charges would be included in the TI basket.

5.27 In the light of the above, the new additional POH charges set out in Section 4 will continue to be included in the TI basket. The implications of this are as follows:

- Additional POH charges are subject to an overall cap of RPI-1.75%. Following the CAT's direction dated 20 September 2010[65], we amended the Controlling Percentage for the TI basket to RPI –1.75% for the charge control years 2010/11 and 2011/12. As the additional POH charges are included in the TI basket, they are overall subject to the cap RPI-1.75% for the remainder of the charge control period.

- In paragraph 4.165 of the LLCC Statement, we said that each POH charge is also subject to a safe-guard cap of RPI-0%. As explained in paragraph 4.24 of the LLCC Statement, this safe-guard cap is intended to address the concern that BT could discriminate against external users of PPCs by raising additional POH charges. This ensures that BT cannot increase these charges in real terms.

We have modified BT's current SMP services conditions

5.28 In Section 4 we have set out the new Type I and Type II POH charges. We have also decided that this amended charge control will apply from 1st October 2011 until 30th September 2012.

5.29 We have therefore modified BT's current charge control conditions to give effect to the new additional POH charges. In addition, we have dis-applied the safe-guard cap of RPI-0% as the new ceilings will apply for the rest of the charge control period. We discuss these in more detail below.

Implementing the new additional POH charge control

5.30 We have given effect to the additional POH charge control via the new paragraphs G4.1(a), GG4.1(a), GH4.1(a) and H4.1(a) as follows (for simplicity we have only shown the amended text for paragraph G4.1(a)):

*"**G4.1(a)** The Dominant Provider shall not charge more than:*

(a) for each of the Type I POH services, the maximum amount prescribed by Table 1 of Annex E for the corresponding Type I POH service during the period beginning on 1st October 2011 and ending on 30th September 2012; and

(b) for each of the Type II POH services, the maximum amount prescribed by Table 2 of Annex E for the corresponding Type I POH service during the period beginning on 1st October 2011 and ending on 30th September 2012;

65 http://www.catribunal.org.uk/files/1112_Cable_Wireless_Ruling_200910.pdf

5.31 The new additional POH charges are also listed in the new Annex E to Conditions G4, GG4, GH4 and H4 as per the tables below.

Table 1

Type I POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
SMA-1	*402*
SMA-4	*477*
SMA-16	*1349*
Bearer	*227*

Table 2

Type II POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
64 kbit/s	*119*
2 Mbit/s	*203*
34/45 Mbit/s	*1027*
140/155 Mbit/s	*1910*

5.32 As discussed above each additional POH charge is normally subject to an RPI-0% safe-guard cap. This safe-guard cap is imposed via paragraphs G4.10, GG4.10, GH4.10 and H4.10.[66] In Section 4 we decided that this condition would not apply to the additional POH charges because we have made an adjustment to the charges to allow for inflation.

5.33 Following on from this, we have amended paragraphs G4.10, GG4.10, GH4.10 and H4.10 as follows (for simplicity we have only shown the example for Condition G4.10):

"*...Subject to paragraph G4.10(a), [...]*."

5.34 Linked to the above, we have also implemented the following new paragraphs G4.10a, GG4.10a, GH4.10a and H4.10a (for simplicity we have only shown the example for Condition G4.10a):

"G4.10(a) *Paragraph G4.10 shall not apply to:*

(a) Type I POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period, only the prescribed maximum amounts pursuant to paragraph G4.1(a) shall apply.

[66] See Schedule 1 of Annex 9 of the LLCC Statement.

(b) Type II POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period, only the prescribed maximum amounts pursuant to paragraph G4.1(b) shall apply.

We have amended the list of services

5.35 When we published the LLCC Statement we listed the relevant services in Part 2c of Annex A to Conditions G4, GG4, GH4 and H4.

5.36 We have adopted the following revisions to the list of services included in Part 2c of Annex A to Conditions G4, GG4, GH4 and H4. We have extended the original list of services included in the LLCC Statement, to capture the Type I POH rental charges BT introduced since the publication of the LLCC Statement (i.e. SMA-1, SMA-4, SMA-16 and Bearer[67]).

"...

Part 2c: Rental and maintenance services in respect of the provision of Partial Private Circuits Points of Handover in each of the following bandwidths in all parts of the United Kingdom excluding the Central and East London Area (in relation to 34/45 Mbit/s and 140/155 Mbit/s products below) and the Hull Area (for all products below) as specified in Part 1 of Annex D to this Condition.

- 64 kbit/s
- 2 Mbit/s
- 34 Mbit/s – 45 Mbit/s
- 140 Mbit/s – 155 Mbit/s
- *SMA-1*
- *SMA-2*
- *SMA-16*
- *Bearer*

…"

We have completed the process of EU consultation and are now notifiying our final decision to the European Commission and the Secretary of State.

5.37 As set out in paragraphs 2.33 to 2.37 above, under the revised EU Framework, Ofcom is required to complete a process of EU consultation before reaching its final decision.

[67] See BT price list Section B8, Part B8.01, Sub-section 1.6 at: http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

5.38 In accordance with that process, we notified the European Commission, BEREC and the regulatory authorities in every other member state of our proposed decision in relation to the modification of the additional POH charge control. We sent a copy of our draft statement setting out the reasons for our proposed decision to these bodies on 19 August 2011. This draft statement was also published on our website.[68]

5.39 We received no comments on that notification or draft statement from the European Commission, BEREC or any NRA, and therefore we are giving effect to our decision, without any modifications, in this final statement.

5.40 We are notifying our final decision to the European Commission, BEREC and the Secretary of State in accordance with section 48C of the Act.

[68] http://stakeholders.ofcom.org.uk/consultations/revision-points-handover-pricing/statement/

Annex 1

Notification of modification of SMP price control

NOTIFICATION UNDER SECTION 48(1) OF THE COMMUNICATIONS ACT 2003

Decision with regards to the modification of SMP price control conditions in relation to BT under section 45 of the Communications Act 2003.

Background

1. On 8 December 2008, the Office of Communications ("Ofcom") published its statement entitled '*Business Connectivity Market Review – Review of the retail leased lines, wholesale symmetric broadband origination and wholesale trunk segments markets*' (the "**BCMR Statement**").[69]

2. At Annex 8 to the BCMR Statement, Ofcom published a notification (the "**BCMR Notification**") identifying, in accordance with section 79 of the Communications Act 2003 (the "**Act**"), a number of services markets in each of which Ofcom determined that, for the purpose of making market power determinations under the Act, BT[70] has Significant Market Power ("SMP"). Specifically, those services markets are:

(a) the provision of traditional interface symmetric broadband origination with a bandwidth capacity up to and including eight megabits per second within the United Kingdom but not including the Hull Area[71];

(b) the provision of traditional interface symmetric broadband origination with a bandwidth capacity above eight megabits per second and up to and including forty five megabits per second within the United Kingdom but not including the Hull Area and the Central and East London Area[72];

(c) the provision of traditional interface symmetric broadband origination with a bandwidth capacity above forty five megabits per second and up to and including one hundred and fifty five megabits per second within the United Kingdom but not including the Hull Area and the Central and East London Area;

[69] http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr08/summary/bcmr08.pdf

[70] "**BT**" means British Telecommunications plc, whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 736 of the Companies Act 1985, as amended by the Companies Act 1989 (see paragraph 21(a) of the BCMR Notification).

[71] "**Hull Area**" means the area defined as the 'Licensed Area' in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc (see paragraph 21(b) of the BCMR Notification).

[72] "**Central and East London Area**" means the area in London consisting of the postal sectors set out in the Appendix to the BCMR Notification (see paragraph 21(d) of the BCMR Notification).

(d) the provision of alternative interface symmetric broadband origination with a bandwidth capacity up to and including one gigabit per second within the United Kingdom but not including the Hull Area;

(e) the provision of wholesale trunk segments at all bandwidths within the United Kingdom; and

(f) the provision of traditional interface retail leased lines up to and including a bandwidth capacity of eight megabits per second within the United Kingdom but not including the Hull Area.

3. As a result of those market power determinations, in accordance with section 48(1) of the Act, Ofcom set on BT pursuant to section 45 of the Act the SMP conditions set out in Schedules 1 to 6 to the BCMR Notification, each Schedule of which containing SMP conditions that correspond to the respective services markets mentioned in paragraph 2 above (such that SMP conditions applying on BT to TISBO up to and including 8 Mbit/s being set out in Schedule 1 to the BCMR Notification, and so on). Those SMP conditions did not include any price controls, although Ofcom concluded that, in principle, BT should be subject to charge controls in the markets for low bandwidth, high bandwidth and very high bandwidth 155 Mbit/s TISBOs, TI trunk segments and low bandwidth AISBOs. Ofcom considered that such controls would be necessary to address the nature of the problems identified in the above-mentioned market power determinations (except for the retail leased lines), but that the details and design of such controls would be subject to a separate statement and separate notification.

4. On 2 July 2009, Ofcom published a statement entitled '*Leased Lines Charge Control – A new charge control framework for wholesale traditional interface and alternative interface products and services*' (the **"LLCC Statement**"), which included a publication at Annex 9 to that document of a notification under section 48(1) of the Act setting out Ofcom's new SMP conditions for the purpose of imposing on BT charge controls to address the above-mentioned problems (the "**LLCC Notification**").[73]

5. On 2 September 2009, Cable & Wireless UK ("**C&W**") brought an appeal against the LLCC Statement (the "**LLCC Appeal**") to the Competition Appeal Tribunal (the "**CAT**") under section 192 of the Act.

6. On 20 September 2010 the CAT disposed of the entire appeal (the "Ruling") and remitted the decision under appeal to Ofcom with the below directions in relation to POHs (the "CAT Order"). These are as follows:

"...

4. In relation to the error found in Reference Question 4(a)(i), the Tribunal directs OFCOM to assess the reasonableness of the revised BT estimated costs and the determination of the appropriate figure for the new POH charges.

5. In relation to the error found in Reference Question 4(a)(iii), the Tribunal directs OFCOM to assess the various regulatory options for implementing new POH charges in the light of the matters set out in the Commission's assessment of

[73] http://stakeholders.ofcom.org.uk/consultations/llcc/statement/

Reference Questions 4(a)(ii), (iii) and (iv) and in a manner which puts OFCOM in a position to satisfy its relevant statutory obligations.

6. In relation to the error found in Reference Question 4(b)(i), the Tribunal directs OFCOM to decide how POH costs should be recovered in the light of the matters set out in the Commission's assessment of Reference Question 4(b)(i).

..."

7. Ofcom therefore published on 26 January 2011 a consultation document entitled 'LLCC PPC Points of Handover pricing review" (the "January Consultation") which included in Annex 7 to that document publication of a notification under section 48A of the Act setting out Ofcom's proposals to modify the SMP price control conditions on BT (the "January Consultation Notification").

8. Following comments from stakeholders Ofcom made some amendments to those proposals and on 22 June 2011 published a second consultation document, entitled 'LLCC PPC Points of Handover pricing review' (the "June Consultation"), which included in Annex 6 to that document publication of a notification under section 48A of the Act setting out Ofcom's further proposals to modify the SMP price control conditions on BT (the "June Consultation Notification").

9. Copies of the June Consultation Notification were sent to the Secretary of State in accordance with section 48C(1) of the Act. Ofcom invited representations on its proposals by 20 July 2011.

10. Ofcom received 6 responses to the January Consultation Notification and four responses to the June Consultation Notification, and has considered every such representation duly made. The Secretary of State has not notified Ofcom of any international obligation on the United Kingdom for this purpose.

11. On 19 August 2011, Ofcom notified the European Commission, BEREC and the regulatory authorities in every other member state of its proposed decision, and sent a copy of a draft statement setting out the reasons for it, in accordance with section 48B of the Act. Ofcom did not receive any comments on that notification.

Decisions

12. Ofcom hereby, in accordance with section 48C of the Act and in relation to the services markets referred to in paragraph 2 above (except for the services market in sub-paragraph (f)) in each of which Ofcom has determined BT to be a person having significant market power, proposes to modify SMP conditions imposing the price controls specified in the Schedules to this Notification (the "**SMP Charge Control Conditions**"), such that:

(a) **Condition G4** (Charge control) is modified in the manner set out in **Schedule 1** to this Notification;

(b) **Condition GG4** (Charge control) is modified in the manner set out in **Schedule 2** to this Notification;

(c) **Condition GH4** (Charge control) is modified in the manner set out in **Schedule 3** to this Notification; and

(d) **Condition H4** (Charge control) is modified in the manner set out in **Schedule 4** to this Notification.

13. The effect of, and Ofcom's reasons for making, the modifications to the SMP price control conditions set out in the Schedules to this Notification are contained in the explanatory statement accompanying this Notification.

14. In making the modifications set out in this Notification, Ofcom has considered and acted in accordance with its general duties set out in section 3 and the six Community requirements set out in section 4 of the Act.

15. Moreover in making the modifications set out in this Notification, Ofcom has considered the exercise of its general duties and the modification of the charge control condition in the light of the tests under section 47(1), 87 and 88 of the Act.

16. A copy of this Notification has been sent to the Secretary of State, the European Commission and BEREC in accordance with section 48C of the Act.

Interpretation

17. Except for references made to proposed identified services markets in paragraph 2 above (and expect as otherwise defined in paragraph 14 below) of this Notification, words or expressions used in this Notification shall have the same meaning as they have been ascribed in the Act.

18. In this Notification—

(a) "**Act**" means the Communications Act 2003 (c.21);

(b) "**BEREC**" means the Body of European Regulators for Electronic Communications;

(c) "**BCMR Notification**" has the meaning given to it in paragraph 2 of this Notification;

(d) "**BCMR Statement**" has the meaning given to it in paragraph 1 of this Notification;

(e) "**BT**" has the meaning given to it in paragraph 2 of this Notification;

(f) "**CAT**" means the Competition Appeal Tribunal;

(g) "**C&W**" means Cable & Wireless UK;

(h) "**Central and East London Area**" has the meaning given to it in paragraph 2(c) of this Notification;

(i) "**Hull Area**" has the meaning given to it in paragraph 2(c) of this Notification;

(j) "**January Consultation**" means the consultation Ofcom published on 26 January 2011 entitled '*LLCC PPC Points of Handover pricing review – Proposal for modification of SMP Conditions'*

(k) "**June Consultation**" means the consultation Ofcom published on 22 June 2011 entitled '*LLCC PPC Points of Handover pricing review – Revisions to proposed modifications of SMP Conditions'*

(l) "**LLCC Appeal**" means the appeal C&W brought to the CAT on 2 September 2010 in relation to the LLCC Statement;

(m) "**LLCC Statement**" means the statement Ofcom published on 2 July 2009 entitled '*Leased Lines Charge Control – A new charge control framework for wholesale traditional interface and alternative interface products and services*';

(n) "**LLCC Notification**" has the meaning given to it in paragraph 4 of this Notification; and

(o) "**Ofcom**" means the Office of Communications.

19. For the purpose of interpreting this Notification—

(a) headings and titles shall be disregarded; and

(b) the Interpretation Act 1978 (c. 30) shall apply as if this Notification were an Act of Parliament.

20. The Schedules to this Notification shall form part of this Notification.

21. Unless otherwise stated in the Schedules to this Notification, the decisions set out above shall take effect on the day this Notification is published.

Signed by

M. Gibbs

MARINA GIBBS
Competition Policy Director, Ofcom

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

21 September

Schedule 1

(TISBO up to and including 8 Mbit/s)

SMP services condition G4

Modification of condition imposed on British Telecommunications plc under the Communications Act 2003 as a result of the analysis of the market for the provision of traditional interface symmetric broadband origination with a bandwidth capacity up to and including eight megabits per second within the United Kingdom but not including the Hull Area

1. The following new paragraph G4.1(a) shall be set by inserting it after paragraph G4.1 of Condition G4 in Part 2 of Schedule 1 to the BCMR Notification:

"**G4.1(a)** The Dominant Provider shall not charge more than:

(a) for each of the Type I POH services, the maximum amount prescribed by Table 1 of Annex E for the corresponding Type I POH service during the period beginning on 1st October 2011 and ending on 30th September 2012;

(b) for each of the Type II POH services, the maximum amount prescribed by Table 2 of Annex E for the corresponding Type POH II service during the period beginning on 1st October 2011 and ending on 30th September 2012;

2. Paragraph G4.10 of Condition G4 in Part 2 of Schedule 1 to the BCMR Notification shall be modified by inserting the following words at the beginning of that Condition:

"**G4.10** ...Subject to paragraph G4.10(a), […]."

3. The following new paragraph G4.10(a) shall be set by inserting it after paragraph G4.10 of Condition G4 in Part 2 of Schedule 1 to the BCMR Notification:

"G4.10(a) Paragraph G4.10 shall not apply to:

(a) Type I POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period, only the prescribed maximum amounts pursuant to paragraph G4.1(a) shall apply.

(b) Type II POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period only the prescribed maximum amounts pursuant to paragraph G4.1(b) shall apply."

4. The following new definitions shall be set by inserting them in paragraph G4.17 of Condition G4 in Part 2 of Schedule 1 to the BCMR Notification:

(n) **"Type I POH services"** means the services listed in Section B8, Part 8.01, Sub-Section 1.6 of the Dominant Provider's Carrier Price List:

http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

(o) **"Type II POH services"** means the services listed in the column entitled "3rd party POH rental fixed charge p.a." in Section 8, Part 8.03, Sub-section 1.1 of the Dominant Provider's Carrier Price List:

http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

5. Part 2(c) of Annex A shall be deleted and replaced in its entirety as follows:

Annex A to Condition G4

Products and services subject to charge control pursuant to Condition G4.1(a)

"...

Part 2c: Rental and maintenance services in respect of the provision of Partial Private Circuits Points of Handover in each of the following bandwidths in all parts of the United Kingdom excluding the Central and East London Area (in relation to 34/45 Mbit/s and 140/155 Mbit/s products below) and the Hull Area (for all products below) as specified in Part 1 of Annex D to this Condition.

- 64 kbit/s
- 2 Mbit/s
- 34 Mbit/s – 45 Mbit/s
- 140 Mbit/s – 155 Mbit/s
- SMA-1
- SMA-2
- SMA-16
- Bearer

…"

6. The following new Annex shall be inserted after Annex D in Part 2 of Schedule 1 to the BCMR Notification:

Annex E to Condition G4

Maximum Charges pursuant to paragraph G4.1(a)

Part 1

Table 1

Type I POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
SMA-1	*402*
SMA-4	*477*
SMA-16	*1349*
Bearer	*227*

Table 2

Type II POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
64 kbit/s	*119*
2 Mbit/s	*203*
34/45 Mbit/s	*1027*
140/155 Mbit/s	*1910*

Schedule 2

(TISBO above 8 Mbit/s up to and including 45 Mbit/s)

SMP services condition GG4

Modification of condition imposed on British Telecommunications plc under the Communications Act 2003 as a result of the analysis of the market for the provision of traditional interface symmetric broadband origination with a bandwidth capacity above eight megabits per second and up to and including forty five megabits per second within the United Kingdom but not including the Hull Area and the Central and East London Area

1. The following new paragraph GG4.1(a) shall be set by inserting it after paragraph GG4.1 of Condition GG4 in Part 2 of Schedule 2 to the BCMR Notification:

“**GG4.1(a)** The Dominant Provider shall not charge more than:

(a) for each of the Type I POH services, the maximum amount prescribed by Table 1 of Annex E for the corresponding Type I POH service during the period beginning on 1st October 2011 and ending on 30th September 2012;

(b) for each of the Type II POH services, the maximum amount prescribed by Table 2 of Annex E for the corresponding Type POH II service during the period beginning on 1st October 2011 and ending on 30th September 2012;

2. Paragraph GG4.10 of Condition GG4 in Part 2 of Schedule 2 to the BCMR Notification shall be modified by inserting the following words at the beginning of that Condition:

“**GG4.10** ...Subject to paragraph GG4.10(a), […].”

3. The following new paragraph GG4.10(a) shall be set by inserting it after paragraph GG4.10 of Condition GG4 in Part 2 of Schedule 2 to the BCMR Notification:

“GG4.10(a) Paragraph GG4.10 shall not apply to:

(a) Type I POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period, only the prescribed maximum amounts pursuant to paragraph GG4.1(a) shall apply.

(b) Type II POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period only the prescribed maximum amounts pursuant to paragraph GG4.1(b) shall apply.”

4. The following new definitions shall be set by inserting them in paragraph GG4.17 of Condition GG4 in Part 2 of Schedule 2 to the BCMR Notification:

(n) **“Type I POH services”** means the services listed in Section B8, Part 8.01, Sub-Section 1.6 of the Dominant Provider’s Carrier Price List:

http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

(o) **"Type II POH services"** means the services listed in the column entitled "3rd party POH rental fixed charge p.a." in Section 8, Part 8.03, Sub-section 1.1 of the Dominant Provider's Carrier Price List:

http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

5. Part 2(c) of Annex A shall be deleted and replaced in its entirety as follows:

Annex A to Condition GG4

Products and services subject to charge control pursuant to Condition GG4.1(a)

"...

Part 2c: Rental and maintenance services in respect of the provision of Partial Private Circuits Points of Handover in each of the following bandwidths in all parts of the United Kingdom excluding the Central and East London Area (in relation to 34/45 Mbit/s and 140/155 Mbit/s products below) and the Hull Area (for all products below) as specified in Part 1 of Annex D to this Condition.

- 64 kbit/s
- 2 Mbit/s
- 34 Mbit/s – 45 Mbit/s
- 140 Mbit/s – 155 Mbit/s
- SMA-1
- SMA-2
- SMA-16
- Bearer

…"

6. The following new Annex shall be inserted after Annex D in Part 2 of Schedule 2 to the BCMR Notification:

Annex E to Condition GG4

Maximum Charges pursuant to paragraph GG4.1(a)

Part 1

Table 1

Type I POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
SMA-1	*402*
SMA-4	*477*
SMA-16	*1349*
Bearer	*227*

Table 2

Type II POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
64 kbit/s	*119*
2 Mbit/s	*203*
34/45 Mbit/s	*1027*
140/155 Mbit/s	*1910*

Schedule 3

(TISBO above 45 Mbit/s up to and including 155 Mbit/s)

SMP services condition GH4

Modification of condition imposed on British Telecommunications plc under the Communications Act 2003 as a result of the analysis of the market for the provision of traditional interface symmetric broadband origination with a bandwidth capacity above forty five megabits per second and up to and including one hundred and fifty five megabits per second within the United Kingdom but not including the Hull Area and the Central and East London Area

1. The following new paragraph GH4.1(a) shall be set by inserting it after paragraph GH4.1 of Condition GH4 in Part 2 of Schedule 3 to the BCMR Notification:

"**GH4.1(a)** The Dominant Provider shall not charge more than:

(a) for each of the Type I POH services, the maximum amount prescribed by Table 1 of Annex E for the corresponding Type I POH service during the period beginning on 1st October 2011 and ending on 30th September 2012;

(b) for each of the Type II POH services, the maximum amount prescribed by Table 2 of Annex E for the corresponding Type POH II service during the period beginning on 1st October 2011 and ending on 30th September 2012;

2. Paragraph GH4.10 of Condition GH4 in Part 2 of Schedule 3 to the BCMR Notification shall be modified by inserting the following words at the beginning of that Condition:

"**GH4.10** ...Subject to paragraph GH4.10(a), […]."

3. The following new paragraph GH4.10(a) shall be set by inserting it after paragraph GH4.10 of Condition GH4 in Part 2 of Schedule 3 to the BCMR Notification:

"GH4.10(a) Paragraph GH4.10 shall not apply to:

(a) Type I POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period, only the prescribed maximum amounts pursuant to paragraph GH4.1(a) shall apply.

(b) Type II POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period only the prescribed maximum amounts pursuant to paragraph GH4.1(b) shall apply."

4. The following new definitions shall be set by inserting them in paragraph GH4.17 of Condition GH4 in Part 2 of Schedule 3 to the BCMR Notification:

(n) **"Type I POH services"** means the services listed in Section B8, Part 8.01, Sub-Section 1.6 of the Dominant Provider's Carrier Price List:

http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

(o) **“Type II POH services”** means the services listed in the column entitled “3rd party POH rental fixed charge p.a.” in Section 8, Part 8.03, Sub-section 1.1 of the Dominant Provider’s Carrier Price List:

http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

5. Part 2(c) of Annex A shall be deleted and replaced in its entirety as follows:

Annex A to Condition GH4

Products and services subject to charge control pursuant to Condition GH4.1(a)

“...

Part 2c: Rental and maintenance services in respect of the provision of Partial Private Circuits Points of Handover in each of the following bandwidths in all parts of the United Kingdom excluding the Central and East London Area (in relation to 34/45 Mbit/s and 140/155 Mbit/s products below) and the Hull Area (for all products below) as specified in Part 1 of Annex D to this Condition.

- 64 kbit/s
- 2 Mbit/s
- 34 Mbit/s – 45 Mbit/s
- 140 Mbit/s – 155 Mbit/s
- SMA-1
- SMA-2
- SMA-16
- Bearer

…”

6. The following new Annex shall be inserted after Annex D in Part 2 of Schedule 3 to the BCMR Notification:

Annex E to Condition GH4

Maximum Charges pursuant to paragraph GH4.1(a)

Part 1

Table 1

Type I POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
SMA-1	*402*
SMA-4	*477*
SMA-16	*1349*
Bearer	*227*

Table 2

Type II POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
64 kbit/s	*119*
2 Mbit/s	*203*
34/45 Mbit/s	*1027*
140/155 Mbit/s	*1910*

Schedule 4

(Trunk)

SMP services condition H4

Modification of condition imposed on British Telecommunications plc under the Communications Act 2003 as a result of the analysis of the market for the provisions of wholesale trunk segments at all bandwidths within the United Kingdom

1. The following new paragraph H4.1(a) shall be set by inserting it after paragraph H4.1 of Condition H4 in Part 2 of Schedule 5 to the BCMR Notification:

"**H4.1(a)** The Dominant Provider shall not charge more than:

(a) for each of the Type I POH services, the maximum amount prescribed by Table 1 of Annex E for the corresponding Type I POH service during the period beginning on 1st October 2011 and ending on 30th September 2012;

(b) for each of the Type II POH services, the maximum amount prescribed by Table 2 of Annex E for the corresponding Type POH II service during the period beginning on 1st October 2011 and ending on 30th September 2012;

2. Paragraph H4.10 of Condition H4 in Part 2 of Schedule 5 to the BCMR Notification shall be modified by inserting the following words at the beginning of that Condition:

"**H4.10** ...Subject to paragraph H4.10(a), […]."

3. The following new paragraph H4.10(a) shall be set by inserting it after paragraph H4.10 of Condition H4 in Part 2 of Schedule 5 to the BCMR Notification:

"H4.10(a) Paragraph H4.10 shall not apply to:

(a) Type I POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period, only the prescribed maximum amounts pursuant to paragraph H4.1(a) shall apply.

(b) Type II POH services during the period beginning on 1st October 2011 and ending on 30th September 2012. For the avoidance of doubt, during that period only the prescribed maximum amounts pursuant to paragraph H4.1(b) shall apply."

4. The following new definitions shall be set by inserting them in paragraph H4.17 of Condition H4 in Part 2 of Schedule 5 to the BCMR Notification:

(n) **"Type I POH services"** means the services listed in Section B8, Part 8.01, Sub-Section 1.6 of the Dominant Provider's Carrier Price List:

http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

(o) **"Type II POH services"** means the services listed in the column entitled "3rd party POH rental fixed charge p.a." in Section 8, Part 8.03, Sub-section 1.1 of the Dominant Provider's Carrier Price List:

http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

5. Part 2(c) of Annex A shall be deleted and replaced in its entirety as follows:

Annex A to Condition H4

Products and services subject to charge control pursuant to Condition H4.1(a)

"...

Part 2c: Rental and maintenance services in respect of the provision of Partial Private Circuits Points of Handover in each of the following bandwidths in all parts of the United Kingdom excluding the Central and East London Area (in relation to 34/45 Mbit/s and 140/155 Mbit/s products below) and the Hull Area (for all products below) as specified in Part 1 of Annex D to this Condition.

- 64 kbit/s
- 2 Mbit/s
- 34 Mbit/s – 45 Mbit/s
- 140 Mbit/s – 155 Mbit/s
- SMA-1
- SMA-2
- SMA-16
- Bearer

…"

6. The following new Annex shall be inserted after Annex D in Part 2 of Schedule 5 to the BCMR Notification:

Annex E to Condition H4

Maximum Charges pursuant to paragraph H4.1(a)

Part 1

Table 1

Type I POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
SMA-1	*402*
SMA-4	*477*
SMA-16	*1349*
Bearer	*227*

Table 2

Type II POHs	***Maximum price (£) 1st October 2011 to 30th September 2012***
64 kbit/s	*119*
2 Mbit/s	*203*
34/45 Mbit/s	*1027*
140/155 Mbit/s	*1910*

Annex 2

Glossary

Add Drop Multiplexer (ADM)
An ADM is an important element of an optical fiber network. A multiplexer combines, or multiplexes, several lower-bandwidth streams of data into a single beam of light. An add-drop multiplexer also has the capability to add one or more lower-bandwidth signals to an existing high-bandwidth data stream, and at the same time can extract or drop other low-bandwidth signals, removing them from the stream and redirecting them to some other network path.

Bandwidth
The physical characteristic of a telecommunications system that indicates the speed at which information can be transferred. In analogue systems, it is measured in cycles per second (Hertz) and in digital systems in bits per second (Bit/s).

Current Cost Accounting (CCA)
An accounting convention, where assets are valued and depreciated according to their current replacement cost whilst maintaining the operating or financial capital of the business entity.

Customer Sited Handover (CSH)
Interconnection occurs at a communications provider's premises.

Customer Premises Equipment (CPE)
Sometimes referred to as customer apparatus or consumer equipment, being equipment on consumers' premises which is not part of the public telecommunications network and which is directly or indirectly attached to it.

Distributed long run incremental cost (DLRIC)
DLRIC is the LRIC of the individual service with a share of costs which are common to other services over BT's "core" network.

Excess Construction Charge (ECC)
A charge levied where additional construction of duct and fibre or copper is required to provide service to a customer premise.

Fully allocated cost (FAC)
An accounting approach under which all the costs of the company are distributed between its various products and services. The fully allocated cost of a product or service may therefore include some common costs that are not directly attributable to the service.

In Span Handover (ISH)
Interconnection occurring at a point between BT's premises and a communications provider's premises

kbit/s
kilobits per second. A measure of speed of transfer of digital information.

Leased line
A permanently connected communications link between two premises dedicated to the customers' exclusive use.

Long Run Incremental Cost (LRIC)
The cost caused by the provision of a defined increment of output given that costs can, if necessary, be varied and that some level of output is already produced.

Mbit/s
Megabits per second. A measure of speed of transfer of digital information.

Partial Private Circuit (PPC)
A generic term used to describe a category of private circuits that terminate at a point of connection between two communications providers' networks. It is therefore the provision of transparent transmission capacity between a customer's premises and a point of connection between the two communications providers' networks. It may also be termed a part leased line.

Plesiochronous Digital Hierarchy (PDH)
An older method of digital transmission used before SDH which requires each stream to be multiplexed or demultiplexed at each network layer and does not allow for the addition or removal of individual streams from larger assemblies.

Points of Handover (POH)
A point where one communications provider interconnects with another communications provider for the purposes of connecting their networks to 3rd party customers in order to provide services to those end customers.

Short Run Marginal Cost (SRMC)
The cost caused by the provision of a defined increment of output, where the increment of providing a service is equal to one unit of output and where in the short run some costs are fixed i.e. they do not vary with output over the specified period.

SMA
A specific brand of SDH equipment used by BT to deliver POH

Synchronous Digital Hierarchy (SDH)
A method of digital transmission where transmission streams are packed in such a way to allow simple multiplexing and de-multiplexing and the addition or removal of individual streams from larger assemblies.

Synchronous Transport Mode (STM)
An ITU-T defined standard (G.783) for a multiplexing hierarchy supported by the BT SMA multiplexers.

Traditional interface symmetric broadband origination (TISBO)
A form of symmetric broadband origination service providing symmetric capacity from a customer's premises to an appropriate point of aggregation in the network hierarchy, using a CCITT G703 interface.

Type I POH charges
Type I POH charges include the services listed in Section B8, Part 8.01, Sub-Section 1.6 of BT's Carrier Price List:
http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

Type II POH charges
Type II POH charges include the services listed in the column entitled "3rd party POH rental fixed charge p.a." in Section 8, Part 8.03, Sub-section 1.1 of BT's Carrier Price List: http://www.btwholesale.com/pages/cmsjsps/service_and_support/service_support_hub/online_pricing_hub/cpl_hub/cpl_pricing_hub/cpl_browsable_sections/cpl_browsable_sectionb_8.jsp

Virtual Private Network (VPN)
A VPN is a computer network that uses a public telecommunication infrastructure such as the Internet to provide remote offices or individual users with secure access to their organisation's network.