

Ofcom

Review of Openreach Allocation Methodologies

> KPMG LLP 3 November 2008



# Disclaimer

This version of the report is abbreviated, reflecting redactions of commercially sensitive information contained in the original report.

The information contained in this document contains financial information made available to us by BT Openreach. It has been prepared in the course of our work in accordance with the terms of our engagement letter dated 30 July 2008.

We have satisfied ourselves, so far as possible, that the information presented is consistent with other information which was made available to us in the course of our work in accordance with the terms of our engagement letter. We have not however sought to establish the reliability of the sources by reference to other evidence. Our primary source of information has been BT Openreach internal management information. We do not accept responsibility for such information which remains the responsibility of management. We draw your attention to the significant limitations in the information available to us. We have had no access to the premises of BT Openreach.

This report makes reference to 'KPMG Analysis'; this indicates only that we have (where specified) undertaken certain analytical activities on the underlying data to arrive at the information presented; we do not accept responsibility for the underlying data. We accept no responsibility for the realisation of the prospective financial information.

The report is for the benefit and information of the addressees in our engagement letter only and should not be quoted or referred to, in whole or in part, without our prior written consent, except as specifically provided in our engagement letter. The terms of reference of our engagement letter have been agreed by the addressees and we will not accept responsibility or liability to any other party to whom the Efficiency Workbook may be shown or who may acquire a copy of the Efficiency Workbook.



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# 1 **Executive summary**

# 1.1 **Limitations to this report**

This report has been prepared for Ofcom on the basis of information made available to us by Ofcom and BT/Openreach. It has also been based on discussions held with both these parties. We have relied on the information provided and have not sought to independently verify such information.

As such, the following points should be borne in mind when reading this report:

- The scope of our work is different from an audit and does not provide the same level of assurance as an audit;
- We have not audited or otherwise verified information contained in this report nor the sources of information that have informed this report except where indicated. As such, we do not accept responsibility for such information which remains the responsibility of BT/Openreach management.
- In producing this report we have relied on representations by individuals carrying out work for Ofcom and BT/Openreach which, unless stated otherwise, we have not verified; and
- We have not obtained BT/Openreach's explanations or defences to any possible criticisms which may be made against them;

It therefore follows from the above that further information may come to light which could cause us to change our views.

# 1.2 Allocation from BT to Openreach

BT Group levies charges (referred to as transfer charges) against Openreach in respect of Openreach usage of Group or other line of business resources. We considered whether the allocation of these charges to Openreach is reasonable using two approaches; top-down and bottom-up.

The top-down approach considered the allocation with reference to the proportion of Openreach employees and revenue compared to BT Group. This approach suggested that the allocation was reasonable.

The bottom-up approach examined each transfer charge and assessed the basis on which it is charged to Openreach. It considered whether costs were allocated on direct, causal or non-causal but reasonable basis. We also considered whether the allocation of costs was consistent, objective, transparent and feasible. The result of our analysis is summarised in Table 1 below.



	Allocation Method	Reasonable?	Consistent?	Objective?	Transparent?	Feasible?
Accommod- ation	Direct & causal	?	$\checkmark$	$\checkmark$	?	?
Cumulo rates	Causal	$\checkmark$	$\checkmark$	?	?	$\checkmark$
BT Design	Direct & non-causal	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Corporate overheads	Non-causal	$\checkmark$	?	$\checkmark$	$\checkmark$	$\checkmark$
BT Fleet	Direct	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Low user social telephony	Direct	?	$\checkmark$	?	$\checkmark$	$\checkmark$
Managed services	Direct	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Phonebook cost recovery	Direct	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
WLR SLG payments	Direct	?	?	?	$\checkmark$	$\checkmark$
Supply chain	Non-causal	$\checkmark$	$\checkmark$	$\checkmark$	?	$\checkmark$
Insurance	All	$\checkmark$	?	$\checkmark$	$\checkmark$	$\checkmark$
Other charges	Direct	$\checkmark$	?	$\checkmark$	$\checkmark$	$\checkmark$
Mobile comms	Direct	$\checkmark$	?	$\checkmark$	$\checkmark$	$\checkmark$

#### Table 1 Summary of allocation – BT Group to Openreach

We considered that the allocation of costs from BT Group to Openreach appears to be reasonable. Our analysis of the allocation of costs raised a number of issues for further consideration by Ofcom, specifically:

- The treatment of empty exchange space whether this should continue to be allocated on the basis of the proportion of utilised space or treated as per empty office space and absorbed into BT Group overheads.
- The consistency between the way cumulo rates are levied on BT Group and then onwards allocated to lines of business.
- The level of BT Design development costs included in Openreach forecasts specifically, the need for evidence to support the significant increase in costs forecast by Openreach.
- The appropriateness of using the 'cost of property' as a method for allocating corporate overhead property charges.
- The recovery of the low user social telephony cost via Openreach charges rather than an alternative funding mechanism.
- The recovery of phonebook charges via WLR rental only rather than a basis that reflects the provision of phonebooks (that is, to businesses and residences that may not pay a WLR rental charge).



• The inclusion of service level guarantee charges in Openreach's operating cost base rather than being considered as a separate formal incentive mechanism.

However, we do not consider that the above issues are material.

## **1.3** Allocation to products

Openreach allocates costs to products using the Oak Activity Based Costing Model. The model allocates costs to products (via activities) for the period 2007/08 to 2012/13.

In assessing whether the allocation of costs to products was reasonable, we adopted the following approach:

- 1 Determine the products to which significant portions of costs are allocated
- 2 Determine which allocation methodologies drive the allocation of costs to those products
- 3 Consider whether the basis on which the allocation is made is reasonable
- 4 Consider whether alternative allocation methodologies could be applied and the materiality of doing so

We examined WLR rental and MPF line rental products on the basis that they comprise the majority of costs between 2007/08 and 2012/13. We found that:

- On the basis of reflecting activities that could reasonably be associated with such products, the allocation of costs was also reasonable. However, we noted that the inclusion of field provision activities in both product cost stacks was questionable although the latest version of the Oak model removes the costs associated with such activities. That is, the functionality to include field provision activities in WLR and MPF line rental products remains although no costs are currently being charged.
- The distribution of costs via significant allocation methodologies was also reasonable based on the proportion of volumes associated with the products over the forecast period. For WLR rental products, we also found that the split between business and residential costs was reasonable.
- In general, the allocation of costs to products was made on a consistent, objective and transparent basis. However, we noted that changes to the Oak model have diminished the transparency of the allocation process in that some of the allocation methodologies used do not reflect the actual allocation that occurs.

Although it appeared that the allocation methodologies applied by Openreach were reasonable, we considered whether alternative methodologies could be applied and the difference those methodologies would make to the WLR rental and MPF line rental cost stacks. We believed that it was necessary to maintain a volume-weighted methodology in order to reflect the different cost structures associated with products that largely comprise the same activities (and therefore costs). We modelled a number of scenarios that involved changing the usage factors used in the existing methodologies and estimated price differences between £0.38 to £8.59 depending on the product and adjustment made.



# 2 Introduction

## 2.1 **Purpose**

KPMG were asked by Ofcom to undertake a review of the allocation of costs to Openreach products to assess whether this allocation is reasonable. We were also asked to consider whether alternative allocation methodologies could be applied and, if so, the materiality of such alternatives.

## 2.2 **Provision of information**

In assessing the allocation of costs we have been reliant on information provided by Openreach (via Ofcom), including:

- The Openreach Strategic Options Paper
- Detailed explanation of transfer charges presented in the strategic options paper (latest version dated 18 February 2008)
- Presentations given by Openreach and separate discussions held on various cost components
- Detailed attribution methods and primary accounting documents published by BT Plc
- Openreach Project Oak allocation model v3
- Openreach Project Oak allocation model QRF1 (provided on 22 August 2008)

Where we have not had access to information that would have informed our analysis, we note this in the relevant section.

We note that there is some inconsistency between the sources of information provided to us to date. For example, the detailed explanation of transfer charges paper (18 February 2008) is inconsistent with the Project Oak allocation model QRF1 (provided on 22 August 2008). An update of the transfer charges paper has been requested but was outstanding as at 03 September 2008. This may result in some discrepancies in this paper, which we note where possible.

# 2.3 Allocation of costs

The allocation of costs can be separated into two distinct (although obviously linked) processes:

- Allocation of costs from BT Group to Openreach
- Allocation of Openreach costs to Openreach products

We consider each of these processes in this report.



# 3 Allocation of costs from BT Group to Openreach

# 3.1 **Description**

BT Group levies charges against Openreach in respect of Openreach usage of Group or other line of business resources. These charges are referred to as 'Transfer Charges' and are levied against BT Group Lines of Business ('LOB') based on the portions in Table 2 below.



#### Table 2 Allocation of costs across LOB

Table 2 above shows that 32 per cent of BT Group Transfer Charges are levied against Openreach. This 32 per cent comprises the costs set out in Table 3 below.

|--|

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
	£m	£m	£m	£m	£m	£m
Accommodation	102.8	104.7	121.9	125.5	129.1	133.0
Cumulo Rates	228.9	235.8	242.8	250.1	257.6	265.3
Total One IT	252.1	260.0	255.6	259.8	263.7	268.3
Corporate	180.8	180.8	184.4	188.1	191.8	195.7
Overheads						
BT Fleet						
Low User Social	77.1	77.1	77.1	77.1	77.1	77.1
Telephony						
Managed	56.5	56.5	57.0	57.5	58.0	58.5

<sup>1</sup> Otherwise know as BT Design

<sup>2</sup> Facilities Management

<sup>3</sup> Procurement





The charges outlined in Table 3 are discussed in more detail below.

We note that there is inconsistency in the categories in Table 2 and Table 3 above. We did not receive consistent tables from Openreach to address this.

BT Operate also levies charges against Openreach, referred to as 'Internal Cost of Sales' charges. These charges comprise line card rental costs and other costs such as access and backhaul electronics. All internal cost of sales charges are levied against Openreach on the basis of costs directly incurred. We do not consider them further in this report.

Transfer charges comprise approximately 30% of total Openreach operating costs.

## 3.2 Approach

Our approach to assessing whether the allocation of costs from BT Group to Openreach is reasonable is based on two types of analysis; top-down and bottom-up.

## 3.2.1 **Top-down analysis**

The top-down analysis is essentially a 'reasonableness' test applied to the allocation of costs from BT Group to Openreach. This approach does not take into account the basis on which BT Group has actually allocated the charges to its LOB but rather compares the allocation made to available measures.

The available LOB measures are the number of employees and the proportion of revenue earned by each LOB. These are simplistic measures but provide an indication of whether the allocation of costs may be considered reasonable. We do not, however, consider that the results of a top-down approach are particularly persuasive or should be relied upon in isolation.

## 3.2.1.1 Number of employees

The number of employees for BT Group is summarised in Table 4 below.



#### Table 4 BT Group number of employees - 2007/08

	<b>'000</b>		Proportion			
	Year end	Average	Year end	Average		
BT Global Services	33.1	30.3	30%	27%		
BT Retail	21.1	20.7	19%	18%		
BT Wholesale	2.9	3.1	3%	3%		
Openreach	33.6	33.8	30%	30%		
Other	21.2	20.6	19%	18%		
Total	111.9	108.5				
Source: BT Group plc Annual Report & Form 20-F 2007-08						

Openreach accounts for 30 per cent of both year-end and average employees (full-time) in 2007-08, which is consistent with the 32 per cent of transfer charges allocated to Openreach by BT Group.

#### 3.2.1.2 Revenue earned

The revenue earned by each LOB is summarised in Table 5 below.

#### Table 5 BT Group revenue by line of business - 2007/08

	<b>'000</b>	Proportion			
	Total	Excl. Intra			
BT Global Services	7,889	30%			
BT Retail	8,477	32%			
BT Wholesale	4,959	19%			
Openreach	5,266	20%			
Other	28	0%			
Intra-group	-5,915	N/a			
Total	20,704				
Source: BT Group plc Annual Report & Form 20-F 2007-08					

Openreach accounts for 20 per cent of revenue earned by each LOB in 2007-08, which is 12 per cent below the 32 per cent of transfer charges allocated to Openreach by BT Group. However, given that Openreach is a more capital-intensive LOB and is also price-controlled (and therefore theoretically revenue-constrained), this does not appear to be unreasonable. Again, we note that it is difficult to draw conclusions from this form of top-down analysis.

#### **3.2.2 Bottom-up analysis**

The bottom-up analysis examines each transfer charge in isolation and assesses the basis on which it has been charged to Openreach.



We consider that costs allocated to Openreach should be allocated on a causation basis by identifying whether there is:

- 1 A directly traceable cause and effect relationship with the provision of the product or service (i.e. direct allocation); or
- 2 A verifiable relationship between the cost item and the output of the individual product or service (i.e. causal allocation); or
- 3 A cost has a direct causal relationship with a pool of common costs and allocation of that pool can be made using a relevant, reliable and verifiable factor such as relative use (i.e. non-causal but defensible allocation).

Each transfer charge levied on Openreach by BT Group is discussed in turn in the following section. Where a transfer charge is not allocated on a directly traceable cause and effect relationship basis, we examine those charges in more detail and, where appropriate, consider alternative methods of allocation. Our approach is summarised in Figure 1 below.





Other secondary criteria against which to consider the allocation of costs from BT Group to Openreach include:

• Consistency – whether the allocation is consistent with the regulatory accounts



- Objectivity whether costs are allocated on an objective basis, without unduly benefiting the regulated company or any other company
- Transparency whether the allocation is transparent
- Feasibility whether the allocation method is practical

# **Bottom up analysis**

#### 3.3.1 Accommodation

The Accommodation charge is levied in respect of Openreach's use of property for office space, other facilities and particularly for network equipment, specifically Main Distribution Frames and associated equipment. 60% of the charge is the rental charge from Telereal, BT's outsourced property manager, with the balance predominantly from Monterey, BT's outsourced facilities management service.

Table 2 shows that 15% of BT Group accommodation (referred to as property) charges are allocated to Openreach. BT Group allocates these charges using two allocation methodologies:

- 1 Direct costs allocated on the basis of usage by the LOB
- 2 Occupation of exchange equipment space calculated as a percentage of space utilised

In terms of the occupation of equipment space, to comprehensively assess whether this is truly causal we would need to have an understanding of how the percentage of space utilised is calculated. However, we have not been provided with information relating to this calculation.

Our discussions with Openreach suggest that the treatment of empty space in exchange buildings and offices may need to be subjected to additional scrutiny. Our understanding is that empty office space is excluded from the direct allocation and absorbed into BT Group overheads, whereas empty exchange building space is allocated on the basis of proportional usage of utilised space. Whilst it might seem appropriate to treat empty office and exchange space on a consistent basis, in exchange buildings the Main Distribution Board (MDF) is the Anchor Asset i.e. it is not economic to relocate the MDF to a more efficient building as it is the place where thousands of lines join the network. We are unable to provide an indication of the appropriateness or materiality of this allocation without additional information from BT Group.

Overall, it appears that the allocation of accommodation costs to Openreach by BT Group is done on both a direct and causal basis and is therefore reasonable. However, we note that some caution should be placed around this given uncertainty about the treatment of empty exchange space.

Other criteria:

• Consistency – Openreach has indicated that the allocation of accommodation costs is consistent with the regulatory accounts.



- Objectivity given that the allocation of accommodation costs to Openreach is not in excess of what could reasonably be expected (albeit without oversight of the calculation), it appears that the allocation is objective.
- Transparency we have not had access to the calculation used by BT Group to allocate accommodation costs to LOBs.
- Feasibility allocation on the basis of percentage of accommodation space occupied appears feasible. Again, this conclusion is made without oversight of the calculation undertaken by BT Group.

## 3.3.2 Cumulo Rates

The Cumulo Rates charge is levied in respect of the business rates paid by BT Group for Openreach equipment in exchange buildings, and for the use by Openreach of public land for poles, duct, street cabinets etc.

Table 2 shows that 76% of cumulo rates charges are allocated to Openreach by BT Group. Cumulo rates are determined by legislation<sup>4</sup>, which requires that rates are adjusted annually by RPI.

In relation to this report we have not been provided detailed information regarding the basis on which cumulo rates are levied on BT Group. However, our understanding is that cumulo rates are based on an evaluation of the free cash flows available from the rateable assets to infer a hypothetical rent that someone would be prepared to pay for access to those cash flows. More specifically:

"The base of the tax, the so-called rateable value, is the hypothetical annual rent at which the hereditament [lands, buildings, rateable plant and machinery] might reasonably be expected to be let from year to year in an open market transaction at a certain valuation date."<sup>5</sup>

In terms of BT Group allocating cumulo charges to its lines of business, we would expect a reasonable proxy for this to be the CCA valuation of assets (on a depreciated net replacement basis). In practice BT Group allocates cumulo charges to its lines of business based on the net replacement cost of assets, including exchange buildings and other rateable assets such as duct, fibre, copper and street furniture (poles, masts, payphones). It appears that this is reasonably consistent with the initial allocation of cumulo rates made to BT Group.

The allocation to Openreach is not, however, a direct allocation of costs as the allocation is based on an apportionment determined by BT Group. We therefore consider whether the allocation is causal – that is, whether there is a verifiable relationship between the cost item and the output of the individual product or service. In this case, the output is the

<sup>&</sup>lt;sup>4</sup> Local Government Finance Act 1988, Schedule 7

<sup>&</sup>lt;sup>5</sup> European Commission decision of 12 October 2006. *The United Kingdom's application of the tax on non-domestic property to telecommunication's infrastructure in the United Kingdom.* 2006/951/EC.



operation of Openreach and we consider whether Openreach's operations have a causal relationship with the cumulo rates incurred by BT Group.

Cumulo charges are levied on BT Group on the basis of equipment in exchange buildings and (primarily) the use of public land. There is clearly a verifiable relationship between the operation of Openreach and the use of equipment in exchange buildings, as well as the use of public land for poles, masts, payphones etc. While we do not have access to the calculation performed by BT Group to allocate Cumulo Rates on the basis of use of exchange buildings and public lands by its LOBs, we assume that the allocation is done on a causal basis.

Other criteria:

- Consistency our understanding is that the allocation of cumulo rates is consistent with the regulatory accounts
- Objectivity without access to the calculation undertaken by BT Group we are unable to determine whether the allocation is objective.
- Transparency we have not had access to the calculation used by BT Group to allocate cumulo rate charges to LOBs.
- Feasibility our understanding is that the allocation method is practical and feasible, particularly given the inherent difficulties associated with using alternative allocation methodologies such as profit, which can be complex and unstable making it difficult to forecast for pricing purposes.

## 3.3.3 BT Design

BT Design is BT's internal IT development arm, which is responsible for the development, maintenance and in-life support of all BT's computer systems. The charge is split into three components:

- Operational integrity ongoing operation of physical systems, helpdesks and data centres.
- Application support and maintenance support and maintenance for specific applications.
- Development new system build and enhancements to existing systems.

Table 2 shows that 27% of BT Design charges (referred to as One IT) are allocated to Openreach by BT Group.

Our understanding is that BT Group allocates BT Design charges to Openreach on the following basis:

- Operational integrity allocated indirectly on the basis of headcount as a proxy for the number of computer users
- Application support and maintenance allocated indirectly on the basis of headcount as a proxy for the number of computer users



• Development – these charges are allocated on the basis of specific IT projects based on Openreach's business requirements. These include any known system developments, major events (such as installed base migration), product requirements and enhancements.

It seems that development charges are allocated on a direct basis. However, we note that Openreach has not provided Ofcom with evidence to support the development costs included in its strategic planning documents. Openreach notes that its development costs are forecast to remain relatively constant as per strategic planning requirements on corporate affordability, Openreach prioritisation and specific project decisions. However, this needs to be considered in the context of development costs consisting of two separate components – Equivalence Maintenance Platform (EMP) and Business As Usual (BAU) Development. EMP is a non-recurring cost, while BAU development represents 'Business As Usual' capital expenditure. Table 6 below shows the Openreach forecast for development costs.

#### **Table 6 Forecast development costs**



Table 6 shows that total development costs remain constant from 2009/10. Openreach has not provided any supporting evidence for this. We recommend that Ofcom confirms the BAU development costs included by Openreach.

It is our understanding that operational integrity and application support are not allocated on a direct basis. We have therefore considered whether they are allocated on a causal basis – that is, whether there is a verifiable relationship between allocation of these costs and those that should be attributable to Openreach. For a verifiable relationship to exist, we would need to see an allocation based on Openreach use of (for example) helpdesks, data centres, support and maintenance services. It is our understanding that the allocation of these costs is not done on this basis, but rather using FTE's as a proxy for computer users. This implies that the allocation is non-causal and we therefore consider whether the basis used is reasonable.

Openreach has a high proportion of field staff, who presumably do not require 'at desk' computers. However, our discussions with Openreach have confirmed that field staff all have log-ins, use BT Design systems for job downloads and have laptops to perform diagnostics. Openreach field staff also use additional test equipment, which is supported by BT Design. This implies that, while Openreach field staff might not be traditional computer users, the use of FTEs as a basis for allocating these costs is reasonable.

Other criteria:



- Consistency our understanding is that the allocation of BT Design charges to Openreach is consistent with the regulatory accounts
- Objectivity It appears that costs are allocated to Openreach on an objective basis
- Transparency Cost allocation appears to be transparent
- Feasibility –allocation on the basis of specific projects and FTEs as a proxy for computer users is practical

#### 3.3.4 Corporate Overheads

The corporate overheads charge is levied in respect of the consumption by Openreach of BT Group overheads. These overheads include Group functions' own consumption of accommodation and BT Design charges, as well as general HQ functions such as tax, treasury, legal and accounting.

Table 2 shows that 36% of corporate overheads (what we assume to be Group) are allocated to Openreach by BT Group.

Corporate overheads can be separated into the following components:

- Group HQ functions includes costs for tax, treasury, legal and reporting
- Group CTO
- BT Design overheads currently routed through BT Group for convenience but will be charged directly by BT Design in the future
- Property

The property component is allocated to Openreach on the basis of the proportion of estate occupied and the cost of property. The remaining components are allocated on an FTE basis. Neither of these allocation methodologies is direct nor causal. We therefore considered whether the allocation basis used by BT Group is reasonable.

In the absence of a direct or causal indicator, we considered whether the allocation of costs is made using a relevant, reliable and verifiable factor such as relative use. With respect to 'common costs' such as corporate overheads, in the absence of a comprehensive activity based costing analysis, using FTEs as a proxy for relative use of corporate activities is a commonly accepted approach and one that we consider to be reasonable. In the case of property, relative use of property activities would seem to most appropriately correlate with occupied property. We are unclear how the cost of property is relevant to the corporate property overheads incurred by a line of business and suggest that this allocation requires additional scrutiny.

#### Other criteria:

• Consistency – we are unable to determine whether the allocation of corporate overheads is consistent with the regulatory accounts



- Objectivity the majority of costs appear to be allocated on an objective basis. However, we would note some caution over the use of property costs in allocating property-related overheads.
- Transparency as with objectivity, the majority of costs appear to be allocated transparently with the exception of property-related overheads.
- Feasibility the use of FTEs as a proxy for use of corporate activities and proportion of property occupied for use of property activities is, in our view, an allocation method that is both practical and feasible. Again, we note uncertainty about the use of the cost of property as an indication of the relative use of corporate property activities.

#### 3.3.5 **BT Fleet**

BT Fleet charges are levied in respect of the use by Openreach Field Service and Service Management Centre staff of BT Fleet vehicles.

Table 2 shows that 60% of Fleet charges are allocated to Openreach by BT Group.

Information provided by Openreach suggests that charges are allocated by BT Group to its LOBs on the basis of usage of BT Fleet vehicles. Although we have not been provided with evidence to support this claim, this suggests that allocation is made on a direct basis.

Other criteria:

- Consistency it is our understanding that the allocation of BT Fleet costs to Openreach is consistent with the regulatory accounts
- Objectivity although a large majority of costs are allocated to Openreach, the direct allocation of these costs suggests that they are done so on an objective basis
- Transparency the direct allocation of BT Fleet costs appears to be transparent
- Feasibility the direct allocation of BT Fleet costs is practical

## 3.3.6 Low User Social Telephony

The low user social telephony charge is levied to compensate BT Retail for revenue foregone on the line rental as a result of the BT Social Telephony scheme, as well as for the cost of running the scheme itself.

We assume that the full cost of low user social telephony is allocated to Openreach by BT Group. It is therefore a directly allocated cost. The key issue is whether this cost should reside with Openreach rather than being funded separately, which is a policy issues for Ofcom. However, this is outside the scope of this report.

Other criteria:

• Consistency – it appears that the allocation of the low user social telephony charge is consistent with the regulatory accounts



- Objectivity we are unable to determine whether costs are allocated on an objective basis, without unduly benefiting the regulated company or any other company
- Transparency given that we assume full allocation of the low user social telephony charge to Openreach, this could be deemed to be transparent
- Feasibility full allocation of the low user social telephony charge is practical

#### 3.3.7 Managed services charge

The managed services charge is levied in respect of a range of services performed by BT Wholesale or BT Operate on behalf of Openreach. These services include radio backhaul access, line testing, private circuit testing and monitoring.

We have no information about how much of the managed services charge for BT Group is allocated to Openreach. Openreach notes that while these costs are currently classified as a transfer charge, in the future they may be transferred into Openreach and therefore reflected in direct costs.

Openreach also notes that the majority of these costs relate to Openreach's ePPC products and fall outside the scope of the financial framework review. Our analysis of the Project Oak allocation model suggests that this applies to less than 50 per cent of the managed services costs.

The managed services costs are allocated from BT Group to Openreach on the basis of services performed for Openreach. That is, there is a directly traceable cause and effect relationship with the provision of the services provided by BT Group and the charge allocated to Openreach. It therefore appears that the allocation of these costs to Openreach is reasonable.

Other criteria:

- Consistency our understanding is that the allocation is consistent with the regulatory accounts
- Objectivity given the direct allocation of these charges it appears that these are allocated on an objective basis, without unduly benefiting the regulated company or any other company
- Transparency the direct allocation of these charges is transparent
- Feasibility the direction allocation of these charges is a practical method for allocation

#### 3.3.8 **Phonebook cost recovery**

The phonebook cost recovery charge is levied in respect of the cost of producing and distributing UK telephone directories. We assume that 100% of the phonebook cost recovery charge is allocated to Openreach by BT Group.



The production and distribution of UK telephone directories is managed by BT Retail. However, given that the rental charge for WLR includes the right to a phonebook, the cost of performing this activity is then passed on to Openreach for cost recovery via WLR charges. Our analysis of the Project Oak allocation model confirms that 100% of the phonebook cost recovery charge is allocated to WLR products for residential and business customers.

It appears that the allocation of these costs to Openreach is reasonable on the basis that it is a direct allocation of the cost of a product that should be recovered via the Openreach price structure.

Other criteria:

- Consistency it is our understanding that the allocation of phonebook charges to Openreach is consistent with the regulatory accounts
- Objectivity it appears that phonebook costs are allocated on an objective basis, without unduly benefiting the regulated company or any other company given that these charges are associated with the WLR rental charge
- Transparency the direct allocation of phonebook charges to Openreach is transparent
- Feasibility the direction allocation of phonebook charges to Openreach is practical

Although the allocation of phonebook costs is reasonable, one area which Ofcom may wish to explore further is whether the full cost of phonebooks should be allocated to WLR rental products only or adjusted to reflect the fact that it seems most residences and businesses receive a phonebook regardless of whether they pay a WLR rental charge.

## 3.3.9 SLG Retail

The service level guarantee (SLG) charge is made up of payments to BT Retail and BT Global Services in respect of occasions when Openreach fails to meet its contractual timescales for provision or repair.

We assume that 100% of the SLG charge is allocated to Openreach by BT Group.

SLG payments are primarily driven by fault rates on the Openreach network. The charges are based on agreed contractual terms with different rates set for each product in the Openreach portfolio. These charges are allocated to Openreach on a direct basis, reflecting instances where Openreach has failed to meet its contractual timescales.

While the allocation of these charges to Openreach is reasonable, we consider that the primary issue is whether these costs should be included in Openreach's operating cost base or treated separately, for example as part of a formal incentive mechanism. Inclusion in the operating cost base effectively means that all Openreach customers fund Openreach's inability to meet its contractual timescales for provision and repair, while Openreach is fully funded for these failures. However, this issue is outside the scope of this report and may be considered elsewhere by Ofcom.



Other criteria:

- Consistency we are unable to confirm whether the allocation of SLG charges is consistent with the regulatory accounts
- Objectivity we are unable to confirm whether SLG costs are allocated on an objective basis, without unduly benefiting the regulated company or any other company
- Transparency the direct allocation of SLG charges to Openreach is transparent
- Feasibility the direct allocation of SLG charges to Openreach is practical

## 3.3.10 Supply Chain

The supply chain charge is levied in respect of Openreach's use of stores and delivery facilities provided by BT Group. The most significant components of this charge relate to delivery to exchange store rooms, delivery to new sites, and general mail services.

Table 2 shows that 47% of the supply chain charge is allocated to Openreach by BT Group.

Information provided by Openreach indicates that supply chain charges are allocated by BT Group either on the basis of a direct allocation of specific line items or FTE apportionment. We have not been provided with information regarding which components of supply chain charges are allocated on which basis, although we assume that general mail services are allocated based on FTE apportionment.

Allocation on the basis of FTE apportionment is non-causal and we therefore need to determine whether the basis used is reasonable – that is, whether the allocation of costs is made using a relevant, reliable and verifiable factor such as relative use. As with corporate overheads, in the absence of a comprehensive activity based costing analysis, using FTEs as a proxy for relative use of activities such a mail delivery services is a commonly accepted approach and one that we consider to be reasonable.

Other criteria:

- Consistency it is our understanding that the allocation of supply chain charges to Openreach is consistent with the regulatory accounts
- Objectivity it appears that supply chain costs are allocated on an objective basis, without unduly benefiting the regulated company or any other company
- Transparency the direct allocation of the majority of supply chain charges is transparent. There is some uncertainty regarding which components of supply chain charges that are allocated according to the methodologies used.
- Feasibility the allocation of supply chain charges according to either the direct or FTE apportionment method is practical



#### 3.3.11 Insurance charges

The insurance charge is levied in respect of insurance premiums paid by BT Group on behalf of Openreach

Table 2 shows that 22% of the insurance charge is allocated to Openreach by BT Group. The allocation of insurance premiums is based on the following:



Based on the above information, Table 7 below categorises the allocation of insurance premiums on the basis of whether it is direct, causal or non-causal.

#### Table 7 Allocation of insurance premiums



It is our view that the allocation of insurance premiums on the bases described above is reasonable given that such premiums are usually charges on the basis of causal or non-causal factors such as the number of FTEs or risk-adjusted employees.

Other criteria:

- Consistency we are unable to confirm whether the allocation of insurance premiums to Openreach is consistent with the regulatory accounts
- Objectivity it appears that costs are allocated on an objective basis, without unduly benefiting the regulated company or any other company
- Transparency in general, the allocation of insurance charges to Openreach is transparent
- Feasibility it appears that the allocation of insurance charges is practical

## 3.3.12 Other charges

Other charges are levied in respect of:

• Work carried out by BT Global Services on behalf of Openreach – specifically, the X25 line testing platform and BT Limited. BT Global Services provides a number of network services using X25 infrastructures to support applications used by BT for



operational purposes. Prior to the separation of Openreach these services were all provided to BT Wholesale.

- BT Limited (a Global Services controlled entity) pays employees in India for the Indian Service centre on behalf of Openreach. BT Global Services operates and has legal entities in India, whereas Openreach does not. The employees charged for are under line control of Openreach rather the BT Global Services.
- A variety of other BT Group services consumed by Openreach. These include the cost of BT conferencing services, broadband circuits used by Openreach homeworkers and the cost of retail teams supporting WLR sales to SP customers whose account managers are BT Retail.

We have no information about the proportion of other charges that are allocated by BT Group to Openreach. However, we assume that this is 100% given that the charges are described as Openreach-specific costs. According to Openreach charges are allocated on the basis of services consumed by (although managed outside of) Openreach. This is a direct allocation and is therefore reasonable.

Other criteria:

- Consistency we are unable to confirm whether the allocation of other charges to Openreach is consistent with the regulatory accounts
- Objectivity given that the allocation of other charges is made on the basis of direct allocation it appears that this is done on an objective basis, without unduly benefiting the regulated company or any other company
- Transparency the direct allocation of other charges is transparent
- Feasibility the direct allocation of other charges is practical

## 3.3.13 Mobile comms

Mobile comms charges are levied in respect of business use by Openreach staff of mobile telephone services.

Table 2 shows that 44% of mobile comms charges are allocated to Openreach by BT Group. Information provided by Openreach indicates that charges are based on direct usage of mobile comms by Field Services and Service Management Centre employees. This is a direct allocation and is therefore reasonable.

Other criteria:

- Consistency we are unable to confirm whether the allocation of mobile comms charges is consistent with the regulatory accounts
- Objectivity given that mobile comms charges are allocated on the basis of direct usage, it appears that the allocation is done on an objective basis, without unduly benefiting the regulated company or any other company
- Transparency the direct allocation of mobile comms charges is transparent



• Feasibility – the direct allocation of mobile comms charges is practical

# 3.4 **Conclusion**

Table 8 below summarises our analysis of the allocation of costs from BT Group to Openreach.

	Allocation Method	Reasonable?	Consistent?	Objective?	Transparent?	Feasible?
Accommod-	Direct &	?	$\checkmark$	$\checkmark$	?	?
Cumulo rates	Causal	$\checkmark$	$\checkmark$	?	?	$\checkmark$
BT Design	Direct & non-causal	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Corporate overheads	Non-causal	$\checkmark$	?	$\checkmark$	$\checkmark$	$\checkmark$
BT Fleet	Direct	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Low user social	Direct	?	$\checkmark$	?	$\checkmark$	$\checkmark$
Managed	Direct	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Phonebook cost recovery	Direct	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
WLR SLG payments	Direct	?	?	?	$\checkmark$	$\checkmark$
Supply chain	Non-causal	$\checkmark$	$\checkmark$	$\checkmark$	?	$\checkmark$
Insurance	All	$\checkmark$	?	$\checkmark$	$\checkmark$	$\checkmark$
Other charges	Direct	$\checkmark$	?	$\checkmark$	$\checkmark$	$\checkmark$
Mobile comms	Direct	$\checkmark$	?	$\checkmark$	$\checkmark$	$\checkmark$

Table 8 Summary	of allocation – BT	Group to Openreach

It appears that the allocation of costs from BT Group to Openreach is reasonable. There are some areas that may require additional scrutiny by Ofcom although these are unlikely to have a material effect on the allocation.



# 4 Allocation of costs to products

# 4.1 **Description**

Openreach allocates its costs to products using the Oak Activity Based Costing Model based on the basic process outlined in Figure 2 below.

#### Figure 2 Allocation of Openreach costs to products



The model (version QRF1) allocates costs to products (via activities) for the period 2007/08 to 2012/13.

# 4.2 Approach

In assessing whether the allocation of Openreach costs to products is reasonable, we adopt the following approach:

- 1 Determine the products to which significant portions of costs are allocated
- 2 Determine which allocation methodologies drive the allocation of costs to those products (again, the most significant proportion of costs)
- 3 Consider the basis on which this allocation is made does it make sense? This could take into account, for example, whether costs logically belong to the product groups to which they are eventually allocated.
- 4 Consider whether there are alternative allocation methodologies or changes to existing methodologies that could be applied and what difference the application of these methodologies would make to product prices.

In undertaking the above approach, we have been reliant on the copy of the Oak Activity Based Model provided to us by Ofcom, supporting information supplied by Openreach and discussions with both Ofcom and Openreach.

# 4.3 **Significant products**

In determining which allocation methodologies drive significant portions of costs to products, we have focused firstly on the products to which the most significant portions of costs are allocated. As noted above, there are 97 products to which costs are allocated. Of these 97 products, in 2007/08 WLR Rental Products – Residential and Business



account for over 60% of total costs. No other products account for over 4% of total costs. By 2012/13 the proportion of costs allocated to WLR Rental Products – Residential and Business declines to 22% while the proportion of costs allocated to MPF Line Rental is almost 45%. No other products account for more than 4% of total costs. On this basis, we considered the allocation of costs to:

- WLR Rental Products Residential and Business; and
- MPF Line Rental

To determine significant allocation methodologies, we considered WLR rental products on the basis of 2007/08 costs and MPF line rental on the basis of 2012/13 costs.

#### 4.3.1 WLR rental products – residential and business

The allocation of costs to WLR rental products is summarised in Figure 3 below.

## Figure 3 Allocation of costs to WLR rental products



The allocation of costs to activities is based on either a 'direct' allocation, a duct space survey or previously allocated cost. Our analysis of these allocation methodologies suggests that these are reasonable and reflective of the costs associated with specific types of activities. The more complex area is the allocation of activities to products.

The 23 activities allocated to WLR rental – residential and business products are allocated using 13 allocation methodologies. Of these 23 activities, three activities (NBB PSTN dropwire & NTE, NBB D-side copper & duct and NBB E-side copper & duct) account for 80% of the costs allocated to WLR rental products and are allocated using the following methodologies:

- Dropwire volumes weighted by channel rental products
- Volume weighted by average cost per d-side copper pair per circuit type (OR/LLCS)
- Volume weighted by average cost per e-side copper pair per circuit type (OR/LLCS)

Flowcharts showing the allocation of costs to products using these allocation methodologies are at Appendix A.

## 4.3.2 **MPF line rental**

The allocation of costs to MPF line rental is summarised in Figure 4 below.

#### Figure 4 Allocation of costs to MPF line rental





As with WLR, the allocation of costs to activities is based on either a 'direct' allocation or a duct space survey. Our analysis of these allocation methodologies suggests that these are reasonable and reflective of the costs associated with specific types of activities. The more complex area is the allocation of activities to products.

The 22 activities allocated to MPF line rental are allocated using 14 allocation methodologies. Of these 22 activities, three activities (NBB PSTN dropwire & NTE, NBB D-side copper & duct and NBB E-side copper & duct) account for 80% of the costs allocated to MPF line rental and are allocated using the following methodologies:

- Dropwire volumes weighted by channel rental products see 4.4.1
- Volume weighted by average cost per d-side copper pair per circuit type (OR/LLCS) see 4.4.2
- Volume weighted by average cost per e-side copper pair per circuit type (OR/LLCS)

These are the same allocation methodologies that drive the significant proportion of costs to WLR line rental.

Flowcharts showing the allocation of costs to products using these allocation methodologies are at Appendix A.

## 4.4 Allocation methodologies

To determine whether the allocation methodologies used to allocate costs to products make sense, we need to have a clear understanding of how each methodology works in practice.

The three methodologies identified above are multiple product allocation methodologies. That is, they allocate activities across multiple products using volumes and usage factors. Each methodology allocates costs by calculating a percentage of costs to apply to specific products. Our analysis of the Project Oak model suggests that the percentage is calculated as follows:

Percentage = (usage factor \* product volumes)/sum of (product volumes associated with allocation methodology\*usage factor)<sup>6</sup>

#### 4.4.1 **Dropwire volumes weighted by channel – rental products**

Information provided by Openreach describes dropwire volumes as follows:

"Only usage factor is the inverse of the number of 'channels per line' e.g. ISDN has usage factor of 0.5 because the product volumes are reported in channels and there are two channels per line."<sup>7</sup>

<sup>&</sup>lt;sup>6</sup> To be confirmed by Openreach

<sup>&</sup>lt;sup>7</sup> Openreach, "Oak Activity Based Costing Model" dated 18 February 2008.



Approximately 10% of total costs are allocated using this methodology.

Percentages allocated to WLR Rental and MPF line rental products in the model using the dropwire volumes methodology are summarised in Table 9 below.

#### Table 9 Dropwire volumes allocation to products

Product	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
WLR rental –	69%	67%	64%	55%	34%	26%
residential						
WLR rental –	23%	23%	23%	16%	16%	6%
business						
MPF line rental	5%	8%	11%	28%	53%	66%
Source: Project Oak m	odel QRF1					

For example, in 2007/08, 69% of costs allocated by the dropwire volumes methodology are allocated to WLR rental – residential, falling to 26% in 2012/13 (reflecting declining WLR volumes in the Project Oak Model).

## 4.4.2 Volume weighted by average cost per D-side copper pair per circuit type

Information provided by Openreach describes D-side volume weighted as follows:

"Number of lines weighted by cost weighting to indicate number of copper pairs used per service and average length of line. Consistent with regulatory accounts."<sup>8</sup>

The weighting (usage factor) applied to products to which costs are allocated based on this allocation methodology reflects what is referred to as a 'line length adjustment'. Our discussions with Openreach indicated that the usage factor is calculated by taking into account the average line length and width applicable to particular products, which in turn reflects the cost to be associated with those products (that is, products with average lines that are shorter and 'fatter' cost less than those with line lengths that are longer and 'thinner').

Just over 40% of total costs are allocated using this methodology.

Percentages allocated to WLR Rental and MPF line rental products in the model using the D-side volume weighted methodology are summarised in Table 10 below.

Product	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
WLR rental – residential	69%	67%	64%	55%	34%	26%
WLR rental –	21%	21%	21%	15%	10%	5%
business MPF line rental	5%	7%	10%	26%	51%	64%

#### Table 10 D-side volume weighted allocation to products

<sup>8</sup> Openreach, "Oak Activity Based Costing Model" dated 18 February 2008.



Source: Project Oak model QRF1

For example, in 2007/08 5% of costs allocated by the D-side volume weighted methodology are allocated to MPF line rental, rising to 64% in 2012/13 (reflecting increasing MPF line rental volumes in the Project Oak Model).

#### 4.4.3 Volume weighted by average cost per E-side copper pair per circuit type

Information provided by Openreach describes E-side volume weighted as follows:

"Number of lines weighted by cost weighting to indicate number of copper pairs used per service and average length of line. Consistent with regulatory accounts."

The usage factor applied to products to which costs are allocated using this allocation methodology is calculated the same as for the D-wide volume weighted allocation methodology.

Percentages allocated to WLR Rental and MPF line rental products in the model using the E-side volume weighted methodology are summarised in Table 11 below.

Product	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
WLR rental -	69%	67%	64%	55%	34%	26%
residential						
WLR rental –	21%	21%	21%	15%	10%	5%
business						
MPF line rental	5%	7%	10%	26%	51%	64%
Source: Project Oak model QRF1						

#### Table 11 E-side volume weighted allocation to products

## 4.5 **Reasonableness of allocation methodologies**

In considering whether the allocation methodologies used to allocated costs to products are reasonable, we take into account:

- Whether the activities allocated to products reflect those that could be reasonably associated with such products (i.e. cost causality)
- Whether the split of activities applied to those products is reasonable (e.g. the split between business and residential)
- Whether the distribution of costs across the forecast period makes sense given forecast changes in volumes

<sup>&</sup>lt;sup>9</sup> Openreach, "Oak Activity Based Costing Model" dated 18 February 2008.



The assessment of reasonableness also takes into account the criteria used to determine whether the allocation of costs from BT Group to Openreach was reasonable, specifically whether the allocation is:

- Consistent between costs, activities and products and across the forecast period
- Objective does not skew costs towards one product or group of products without justification
- Transparent the allocation processes shows clear linkages between inputs and outputs
- Feasible the allocation is practical in its application

#### 4.5.1 Allocation to products

Openreach describes the Project Oak Model as an activity-based costing model. Therefore, the allocation of costs to products should reflect those activities associated with the products.

The model allocates activities to products based on either a 100% allocation or a multiple product allocation, using an allocation methodology as described above.

#### 4.5.1.1 WLR rental

The costs allocated to WLR rental (residential and business) should be based on those activities required to provide WLR rental products to customers (internal and external). Ofcom has previously considered that the following cost categories are included in the WLR rental charge:

- E-side and D-side capital and maintenance the exchange side (E-side) and distribution side (D-side) infrastructure.
- MDF (main distribution frame) capital and maintenance the equipment where local loops terminate and cross connections to competing providers' equipment can be made.
- Drop capital and maintenance the drop wire from the street to the customer premises.
- Selling and general administration costs the administrative costs incurred in providing WLR.
- Line cards the electronic cards in the exchange that provide connectivity to the switch.
- Line test costs the costs of functionality required to test lines provided to WLR providers.
- Costs of transfers not recovered in the transfer charge.

Appendix B summarises the activities allocated to WLR rental in the Project Oak model.



Table 12 below categorises these activities based on the cost categories below. It may be that some of the activities are incorrectly categorised, however the table indicates those activities relevant to WLR rental products.

Cost category	Activities
E-side and D-side capital and maintenance	NBB D-side copper & duct (A1002)
	NBB E-side copper & duct (A1003)
	FSP&I D-side copper capital (A2003)
	FSP&I E-side copper capital (A2006)
	NBB Pair gain systems (DACS) (A1011)
	Field repair network (A4051)
MDF capital and maintenance	NBB Main distribution frame (A1005)
*	FSP&I Local exchange general frame capital (A2008)
	Frame repair PSTN (A4021)
	Field repair exchange equipment (A4044)
Drop capital and maintenance	NBB PSTN dropwire & NTE (A1001)
	FSP&I Dropwire capital (A2004)
	Field repair end user (A4052)
Selling and general administrative costs	SMC WLR assurance (A5002)
	Sales and product management (A6001)
	Systems and development (A6002)
	Phonebooks (A6006)
	Equivalence systems- repair (A7000)
Line cards	BTW charge PSTN line cards (A3003)
Line test costs	NBB line test equipment (A1013)
Cost of transfers	None <sup>10</sup>

#### Table 12 Allocation to WLR rental product

The activities which we are unable to categorise are field provision non network (A4034); field provision WLR (A4036) and service level guarantee charges (A6004). Field provision activities are described by Openreach as:

Representing the field service operation costs relating to provisioning activities in the field. The majority of these tasks is capitalised, leaving the element remaining to be allocated to these activities. These activities also include appropriate allocations of VCT transfer charges and Openreach overheads. This category of activity would not be expected to be observed in the cost stack of a rental product as such activities are allocated to connection and migrations products.<sup>11</sup>

The inclusion of these activities in the WLR rental product should be confirmed. However, we note that between version 3 and version QRF1 of the Project Oak model, the costs associated with these activities has been removed (although they remain allocated to WLR rental products in the model).

<sup>&</sup>lt;sup>10</sup> Note that this does not mean that any of the activities in Table 12 are not 'costs of transfers' just that we have not categorised them as such.

<sup>&</sup>lt;sup>11</sup> Openreach, "Oak Activity Based Costing Model". 18 February 2008.



As noted previously, we are not convinced that service level guarantee charges should be included in Openreach's operating costs. We estimate that the materiality of excluding this activity from the WLR rental cost stack is small, ranging from £0.10 in 2007/08 to £0.20 in 2012/13.

## 4.5.1.2 MPF line rental

The costs allocated to MPF line rental should be based on those activities required to provide MPF line rental products to customers. Ofcom has previously considered that the following cost categories are included in the MPF line rental charge:

- E-side and D-side capital and maintenance the exchange side (E-side) and distribution side (D-side) infrastructure.
- MDF (main distribution frame) capital and maintenance the equipment where local loops terminate and cross connections to competing providers' equipment can be made.
- Drop capital and maintenance the drop wire from the street to the customer premises.
- Selling and general administration costs the administrative costs incurred in providing WLR.
- Test access matrix (TAM) and Line test costs the TAM provides a remotely controllable facility for the temporary connection of a line to the line test system to facilitate fault investigation tests.

Appendix C summarises the activities allocated to MPF line rental in the Project Oak model. Table 13 below categorises these activities based on the cost categories below. It may be that some of the activities are incorrectly categorised, however the table indicates those activities relevant to MPF line rental products.

Cost category	Activities
E-side and D-side capital and maintenance	NBB D-side copper & duct (A1002)
L	NBB E-side copper & duct (A1003)
	FSP&I D-side copper capital (A2003)
	FSP&I E-side copper capital (A2006)
	Field repair network (A4051)
MDF capital and maintenance	NBB Main distribution frame (A1005)
-	FSP&I Local exchange general frame capital (A2008)
	Frame repair all lines (A4021)
	Frame repair LLU (A4023)
	Field repair exchange equipment (A4044)
Drop capital and maintenance	NBB PSTN dropwire & NTE (A1001)
	FSP&I Dropwire capital (A2004)
	Field repair end user (A4052)
Selling and general administrative costs	SMC LLU assurance (A5004)
	Sales and product management (A6001)
	Systems and development - products (A6002)
	Equivalence systems - repair (A6006)

#### Table 13 Allocation to MPF line rental product



TAM and line test costs	NBB line test equipment (A1013)
	FSP&I TAMS (A2012)
	NBB TAMS (A3009)

Similar to WLR rental, the activities which we are unable to categorise are field provision non network (A4034) and service level guarantee charges (A6004).

The inclusion of these activities in the MPF line rental product should be confirmed.

As noted previously, we are not convinced that service level guarantee charges should be included in Openreach's operating costs. We estimate that the materiality of excluding this activity from the MPF line rental cost stack is small, ranging from £0.10 in 2007/08 to £0.20 in 2012/13.

#### 4.5.2 **Split between products**

The WLR rental product varies according to whether the line is residential or business. As a measure of reasonableness, we considered the split of costs (via activities) between residential and business compared to the volumes associated with residential and business lines.

Table 14 below shows the proportion of costs and volumes allocated to residential and business WLR rental.

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Volumes -						-
Proportion						
Residential	75%	74%	74%	78%	76%	81%
Business	25%	26%	26%	22%	24%	19%
Costs <sup>12</sup> - Proportion						
Residential	76%	76%	75%	79%	78%	83%
Business	24%	24%	25%	21%	22%	17%
Source: Project Oak Mod	del (QRF1) and	KPMG calcul	ations			

#### Table 14 Split between residential and business

Table 14 shows that the split of costs allocated to residential and business WLR rental products is consistent with the proportion of volumes for residential and business products across the forecast period. It therefore appears that the split is reasonable.

<sup>&</sup>lt;sup>12</sup> Costs comprise operating costs, fixed assets, current assets and current liabilities derived from the Project Oak Model. No WACC adjustment is included.



#### 4.5.3 **Distribution to products**

Although both the allocation methodologies described above are volume weighted, the reasonableness test should check whether these methodologies are applied consistently across the forecast period to reflect the forecast change in volumes between products.

#### 4.5.3.1 Dropwire volumes

Appendix A shows the products to which the dropwire volumes allocation methodology is applied. We would expect the proportion of costs (compared to the total costs applicable to that allocation methodology) to be reasonably similar to the proportion of volumes.

Table 15 shows the proportion of costs and volumes allocated to WLR rental and MPF line rental.

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Volumes -						
proportion						
WLR rental – res	67%	65%	63%	53%	34%	25%
WLR rental – bus	22%	23%	22%	15%	10%	6%
MPF line rental	5%	8%	10%	27%	52%	65%
Costs - proportion						
WLR rental – res	70%	67%	65%	55%	36%	27%
WLR rental – bus	22%	22%	21%	15%	10%	6%
MPF line rental	5%	8%	10%	27%	51%	65%
Source: Project Oak Mo	odel (QRF1) and	KPMG calcul	ations			

#### Table 15 Dropwire volumes distribution to products

The proportion of costs allocated to WLR rental and MPF line rental products is consistent with the proportion of volumes across the forecast period. This suggests that the allocation of costs to these products using the dropwire volumes allocation methodology is reasonable.

## 4.5.3.2 **D-side and E-side volume weighted**

Appendix A shows the products to which the D-side and E-side volume weighted allocation methodology is applied. As with dropwire volumes, we would expect the proportion of costs (compared to the total costs applicable to that allocation methodology) to be reasonably similar to the proportion of volumes.

Table 16 shows the proportion of costs and volumes allocated to WLR rental and MPF line rental.



	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Volumes -						
proportion						
WLR rental – res	61%	59%	57%	49%	31%	23%
WLR rental - bus	20%	20%	20%	14%	9%	5%
MPF line rental	4%	7%	10%	23%	47%	59%
Costs - proportion						
WLR rental - res	64%	61%	60%	51%	33%	25%
WLR rental - bus	20%	20%	20%	14%	9%	5%
MPF line rental	4%	7%	10%	25%	47%	60%
Source: Project Oak Me	odel (QRF1) and	KPMG calcul	ations			

#### Table 16 D-side and E-side volume weighted distribution to products

The proportion of costs allocated to WLR rental and MPF line rental products is consistent with the proportion of volumes across the forecast period. This suggests that the allocation of costs to these products using the D-side and E-side volume weighted allocation methodology is reasonable.

#### 4.5.4 **Other criteria**

As discussed above, we also consider the reasonableness of the allocation of costs to products on the basis of whether the allocation is:

- Consistent between costs, activities and products and across the forecast period
- Objective does not skew costs towards one product or group of products without justification
- Transparent the allocation processes shows clear linkages between inputs and outputs
- Feasible the allocation is practical in its application

The consistency and objectiveness of the allocation methodologies used is demonstrated through the reasonable split between products (i.e. residential and business) and the reasonable reflection of product volumes.

The transparency and feasibility of the allocation methodologies is most readily assessed through a review of the Project Oak model. Our ability to review the latest version of the Project Oak model (version QRF1) has been limited due to time constraints. We initially reviewed the model (version v3) with respect to:

• Checking that clear linkages exist between model inputs and outputs. More specifically, ensuring that the allocation methodologies used result in the correct proportion of costs being allocated to products with no double counting and under/over recovery. This check was been done on a top-down (i.e. cost inputs are consistent with the final product cost stacks) and bottom-up (i.e. costs flow through to activities and subsequently to products) basis.



• Ease of replication of the allocation methodologies. That is, we checked whether the allocation of costs to products could be replicated outside the Project Oak model. The only issue raised here is that it was not possible to replicate the usage factors applied to products allocated using a 'multiple product' allocation methodology. These usage factors were hard-coded into the spreadsheet 'Product\_Allocations'.

Our review of the Project Oak model (version v3) indicated that the allocation of costs to products was transparent and feasible.

While we have not been able to conduct the review to the same extent with version QRF1, it appears that the same conclusions hold with one exception. Specifically the transparency of the model has diminished with respect to the allocation methodologies being used. That is, the allocation methodologies used to allocate costs to products do not reflect the actual allocation that occurs. For example, service level guarantee charges are allocated 100% to activity 'service level guarantee charges' (A6004) on a 'Direct to WLR SLG Charges' basis. This activity is then allocated to both WLR and LLU products based on the 'SLG' allocation methodology. This is a change between versions of the model such that service level guarantee charges are now recovered through both WLR rental and MPF line rental charges. Leaving aside whether service level guarantee charges should be recovered in this way, the model should be updated to more accurately reflect the way the cost is allocated to products.



APPENDICES

Allocation Methodology: Dropwire Volumes weighted by channel – rental products





APPENDICES

## Allocation of Costs to Activity NBB – PSTN Dropwire & NTW







#### Allocation of Costs to Activity FSP&I Dropwire Capital







2007/08 - 2% Depn – Systems Dev C3003 2012/13 - 1% Development Depreciation FA - Comp C4003 Field - Current Pay (Vol) C6001 Tran – Insurance Charges C6003 2007/08 - 1% 2012/13 - 1% Dynamic Field Tran – Low User Social Tel C6012 KMH Current Pay Tran – Managed Services Net C8009 FSP&I Dropwire Capital A2004 Tran – Other Charges C8010 2007/08 - 100% 2012/13 - 100% Direct to FSP&I Wayleaves C6009 Dropwire Capital 2007/08 - 2% 2012/13 - 1% Tran – One IT Dev Capn C2006 One IT Capital Allocation CIO - OOC C8002 2007/08 - 4% Tran - One IT BAU Devt C2004 2012/13-4% One IT BAU Development CIO – Current Pay C8001

## Allocation of Costs to Activity FSP&I Dropwire Capital

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Allocation of Costs to Activity Field Provision Non Network









## Allocation of Costs to Activity Field Provision Non Network







APPENDICES

#### Allocation of Costs to Activity NBB - D-side Copper & Duct







#### Allocation of Costs to Activity FSP&I D-side Copper Capital







2007/08 - 2% Depn – Systems Dev C3003 2011/12 - 1% Development Depreciation FA - Comp C4003 Field - Current Pay (Vol) C6001 Tran – Insurance Charges C6003 2007/08 - 3% 2011/12-4% Dynamic Field KMH Current Pay FSP&I – D-side Copper Capital A2003 Tran – Low User Social Tel C6012 Tran – Managed Services Net C8009 Tran – Other Charges C8010 2007/08 - 2% Tran – One IT Dev Capn C2006 2011/12 - 1% One IT Capital Allocation CIO - OOC C8002

Allocation of Costs to Activity FSP&I D-side Copper Capital







#### APPENDICES

#### Allocation of Costs to Activity NBB – E-side Copper & Duct







#### Allocation of Costs to Activity FSP&I E-side Copper Capital









## Allocation of Costs to Activity E-side Copper Capital



#### **APPENDIX B: List of activities allocated to WLR rental**

## Table 17Activities allocated to WLR rental 2007/08-2012/13

Code	Activity	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
A1001	NBB – PSTN dropwire	23%	23%	23%	16%	11%	6%
A1002	NBB – D-side copper &	21%	21%	21%	15%	10%	5%
	duct						
A1003	NBB – E-side copper &	21%	21%	21%	15%	10%	5%
A 1005	NBB Main	12%	11%	11%	80%	5%	30%
A1005	distribution frame	12/0	11/0	11/0	0 //	570	570
A1011	NBB – Pair gain	25%	26%	26%	22%	24%	19%
4 10 12	systems	170	160	1(0)	100	00	<b>F</b> (4
A1013	NBB – Line test	17%	16%	16%	12%	9%	5%
A2003	FSP&I D-side copper	21%	21%	21%	15%	10%	5%
	capital						
A2004	FSP&I Dropwire capital	23%	23%	23%	16%	11%	6%
A2006	FSP&I E-side copper	21%	21%	21%	15%	10%	5%
	capital						
A2008	FSP&I Local exchanges	12%	11%	11%	8%	5%	3%
12002	general frames capital	050	000	000	2207	040	100
A3003	BIW charge – PSIN line card	25%	26%	26%	22%	24%	19%
A4021	Frame repair – all lines	16%	15%	15%	11%	9%	5%
A4034	Field provision – non	23%	23%	23%	16%	11%	6%
	network						
A4036	Field provision - WLR	25%	26%	26%	22%	24%	19%
A4044	Field repair – exchange	12%	11%	11%	8%	6%	3%
	equipment						
A4051	Field repair – network	18%	18%	18%	12%	8%	5%
A4052	Field repair – end user	18%	18%	18%	12%	8%	5%
A5002	SMC – WLR assurance	25%	26%	26%	22%	24%	19%
A6001	Sales and product	12%	12%	12%	8%	6%	3%
	management						
A6002	Systems and	10%	10%	10%	9%	8%	5%
	development (products)						
A6004	Service level guarantee	2%	2%	3%	2%	2%	1%
A6006	Phonebooks	25%	26%	26%	22%	24%	19%
A7000	Equivalence systems -	0%	0%	0%	0%	0%	0%
	repair	070	070	070	070	070	0.0
Source: 1	Source: Project Oak model (ORF1)						



#### **APPENDIX C: List of activities allocated to MPF line rental**

Table 18 Acti	vities allocated	to MPF line	rental 2007/08-	2012/13
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Code	Activity	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
A1001	NBB – PSTN dropwire	5%	8%	11%	28%	53%	66%
	& NTE						
A1002	NBB – D-side copper &	5%	7%	10%	26%	51%	64%
	duct						
A1003	NBB – E-side copper &	5%	7%	10%	26%	51%	64%
	duct						
A1005	NBB – Main	5%	8%	10%	26%	54%	67%
	distribution frame						
A1013	NBB – Line test	4%	5%	7%	20%	45%	59%
	equipment						
A2003	FSP&I D-side copper	5%	7%	10%	26%	51%	64%
	capital						
A2004	FSP&I Dropwire capital	5%	8%	11%	28%	53%	66%
A2006	FSP&I E-side copper	5%	7%	10%	26%	51%	64%
	capital						
A2008	FSP&I Local exchanges	5%	8%	10%	26%	54%	67%
	general frames capital						
A2012	FSP&I Test access	27%	41%	48%	72%	89%	93%
	management systems						
A3009	NBB – TAMS	27%	41%	48%	72%	89%	93%
A4021	Frame repair – all lines	3%	5%	7%	20%	43%	56%
A4023	Frame repair – LLU	100%	100%	100%	100%	100%	100%
A4034	Field provision – non	5%	8%	11%	28%	53%	66%
	network						
A4044	Field repair – exchange	5%	8%	10%	27%	54%	67%
	equipment						
A4051	Field repair – network	5%	8%	10%	27%	52%	65%
A4052	Field repair – end user	5%	8%	10%	27%	52%	65%
A5004	SMC – LLU assurance	10%	14%	18%	42%	72%	81%
A6001	Sales and product	2%	3%	4%	11%	21%	26%
	management						
A6002	Systems and	6%	9%	12%	20%	28%	29%
	development (products)						
A6004	Service level guarantee	0%	1%	1%	4%	8%	13%
	charges						
A7000	Equivalence systems -	3%	5%	7%	19%	40%	52%
	repair						
Source: I	Project Oak model (QRF1)						