Description of Cost Accounting System (DOCAS):

Representing the Primary and Secondary Accounting Statements Together with Wholesale and Retail Catalogues

24th July 2014

<u>Contents</u>

1. Introduction

KCOM Group plc (KCOM), who own the telecommunications licence for Kingston upon Hull, has been classified by Ofcom as a telecommunications operator with Significant Market Power ("SMP") under the European Commission's Interconnection Directive ("ICD").

As a result, KC, who act as agents of KCOM within the licensed area of Kingston upon Hull, have a requirement to produce financial accounts for telecommunication markets as designated by Ofcom.

KC are required to report on an individual market basis using the existing historical financial accounting systems and applying cost accounting methodologies and attribution methods, using current cost accounting principles. The 2013/14 statements adopt the same methodology as that used in 2012/13. These results are reconciled back to KCOM's accounts in the financial statements for the Markets. Following Ofcom's review of the fixed narrowband services market in September 2013, accounting separation is no longer required for Call Termination on Fixed Public Narrowband Networks and this is no longer reported.

Financial statements are prepared for the following markets in the Hull area: -

Wholesale
Analogue exchange line services
ISDN2
ISDN 30 exchange line services
Call origination on fixed public narrowband networks
Asymmetric broadband origination
Provision of traditional interface symmetric broadband origination with a bandwidth capacity up to and including 8 Mb/s
Provision of traditional interface symmetric broadband origination with a bandwidth capacity above 8 Mb/s and up to and including 45 Mb/s
Provision of traditional interface symmetric broadband origination with a bandwidth capacity above 45 Mb/s and up to and including 155 Mb/s
Provision of alternative interface symmetric broadband origination at all bandwidths

The respective wholesale markets contain fully allocated costs, revenues, assets and liabilities relating to standard services provided to other operators or similar services provided to KC Retail ("KC Retail"). Network charges to other operators and KC Retail are based on their consumption of bundles of network elements (known as "components") into standard network services. The CCA cost of components is based on fully allocated costs of components including a cost of capital. This cost of capital has been established at 13.0%.

2. **KCOM's Organisation**

KC is a division of KCOM. Other, non-regulated, divisions of KCOM in 2013/14 were Corporate Centre, kcom, Information Services and Contact Centres. All these divisions prepare their own management accounts. KCOM own, and BT Wholesale manages, the entire KCOM network including the Hull licenced area backbone infrastructure and therefore the proportion of those costs that relate to the SMP area are brought into the regulatory model. KC recharge other divisions for any standard services they take from KC on a monthly basis.

As KC is a division with SMP, it is KC's accounts, with the appropriate recharges from KCOM, which form the Accounting Separation (AS) financial statements. KC does receive support services from KCOM. Departments within KCOM that provide services to KC include the Group Fleet, Public Relations, Investor Relations, Executive, Group Legal Services, Strategic Development, Business Change, Finance, Payroll and Personnel.

KC has six broad areas of functionality; each headed by a departmental Director. These are Finance, Sales, Product & Marketing, Customer & Technology Services, Network and the Executive and Support functions.

The accounting systems of KC are all fully integrated, with Purchase Ledger, Payroll, Stock and Stores, Fixed Assets, and the various Sales ledgers, including the main APS billing system, interfacing with the Nominal ledger.

KC records its transactions in the accounting records in accordance with the UK's legal requirements and Generally Accepted Accounting Principles. Within these records the detailed analysis is related to the manner in which the transaction has arisen. Assets and liabilities are recorded by type and costs are recorded by category.

KC's coding structure enables costs to be allocated to any particular project, cost centre, or job. Each nominal code is 14 characters, and is set up as follows: -

Natural Account &Subjective Code	Business Group	Main Code	Item Code
XXXXX	XX	XXX	XXXX

The natural account and subjective code is numeric and is used to decide whether a nominal code is a Profit and Loss Account or a Balance Sheet Account, it is also used as the category of expenditure *e.g. Tools and equipment*.

The Business Group is an alpha character and is used to distinguish divisions.
The Main code is numeric, and used as the cost centre code *e.g. Consumer Products Maintenance.*
The Item Code is alpha-numeric, and is used to define a department within the division, a project, a job, etc. *e.g. Private circuit fitters, a particular cabling job.*

Using this coding structure KC can identify separately, or as a project, any type of income and cost.
Information from these systems is used to produce the Statutory Accounts for KC, these being used by KCOM in its consolidation.

3. **Establishing the Accounting Separation Framework**

The principal objectives of the Accounting Separation (AS) system are:

- To provide a high quality, efficient mechanism for the production of the regulatory Financial Statements which include:

    1. Profit and loss accounts and capital employed statements for the defined markets.
    2. Supporting notes
    3. Standard Services

- To provide the foundation for the determination of network charges by Ofcom.
- To provide visibility of cost attributions.
- To demonstrate that KC Retail pays an equivalent network charge to other operators.
- That it should be an integrated platform for all KC's regulatory and internal product reporting requirements.
- That it should assist in competitive investigations.

KC identified two main areas required to comply with Ofcom, and conclude the AS exercise: -

- Attribution of the fully allocated costs ("FAC") and income streams to the markets and the disaggregated activities within those markets, using various methodologies and attribution methods.
- Determination of the network architecture plans, traffic patterns and current cost valuations of the network and other assets. Also, assets require identification as either traffic sensitive or non-traffic sensitive in order to enable the final allocations of costs into the appropriate Markets.

To assist with the technical methodologies and valuation methods, KC enlisted the expertise of a telecom consultancy firm, these being detailed in section 7 and 8.

Advice and co-operation on allocation methods was also sought.

KC have utilised a "Cascade" type framework to apportion overheads to core cost centres, employing 7 "Tiers".

Within each Tier are categories of costs that then cascade into the following Tier.

The model then references other 'cost driver' spreadsheets enabling any changes to determined cost drivers *e.g. call minutes, employee numbers, fault statistics, etc.* to update the model. Engineering elements are attributed using a routing factor matrix to apportion costs to products. Throughout the original development of the methodologies and the model, OFCOM were informed, updated and their approval sought, on the techniques and approaches taken.

4. Tier Framework and the Cascade Approach

Revenue

Retail revenue is recorded in the accounting records in such a manner that it is usually possible to allocate it directly to any of the Markets.

Wholesale revenue is derived to ensure a regulated return on mean capital employed is achieved for each market.

Costs

Costs are drawn from the accounting records. The processes applied to the costs, which vary according to the nature of the costs and the way in which they are recorded, are explained in section 5 – "Attribution Methods".

They then drop into a 'lower' tier, and either, directly or eventually, into a Business or a component.

Tiers

Using the "Cascade" approach to the FAC, required careful attention to the order of the cost centres and into which Tier they should fall.

Once a cost has been allocated to a tier, then that cost cannot return up the "Cascade" into a previous tier. There is one exception to this rule, the Directors' costs for I.T, for which KC feel, that without an adjustment, the AS statements would be distorted.

In Appendix One, is a table with all KC's cost centres, and the tiers that they fall into.

- In **Tier 1** are the depreciation costs which flow into tiers 2 – 7.

- In **Tier 2** there are the transport costs, with that cost centre having the depreciation appertaining to the KC fleet of commercial vehicles from Tier 1.

- In **Tier 3** there are the Building costs, including the costs from Tier 1 and 2, which then fall into Tiers 4,5,6, and 7 . This is the first of 3 Tiers that include 'overhead' type cost centres; in this case it includes for example costs from Tier 1 and 2.

- **Tier 4** allocates the costs of some KCOM recharges to KC, namely Payroll / Pension administration, Insurances, and the KC PBX rental and call charges. After this allocation, the Personnel cost centre is allocated (*i.e. including the Personnel functions' share of depreciation, transport, buildings, and the other attributable Tier 4 costs previously mentioned*.)

- In **Tier 5** is the recharge from Customer Service and Operations of the I.T. section that relates to KC. This recharge then falls into the following Tiers.

- Firstly in **Tier 6**, the Executive and Admin Support function, which includes the KC directors' costs, are allocated and, according to the attribution methods, some will fall into the Finance cost centre. Following the allocation of Finance, the various Marketing areas are then attributed down the cascade. Finally, an allocation of all these Tier 6 costs will have flowed into the Customer Services department.

- In **Tier 7** appear all the cost centres and recharges from Customer Service and Operations, which at this stage will include an allocation of all the previously mentioned cost areas that have been attributed. These are routed through additional routing factors and cost drivers to derive the individual market statements.

These cost centres are as follows: -

Interconnect
Sales
Marketing
Public Relations
Customer Services
Finance
Project Management
Cable Maintenance
Exchange Maintenance
Exchange Planning
Fitters Private Circuits
Project Management
Service Development & Design
Service Manager
Broadband Engineering
Karoo Helpdesk
Maintenance Private Circuits
Operations Support
Minor Network
Network Quality
Coin Box Maintenance
Operators
Consumer Products Maintenance
Consumer Products Rented
Network Service Centre ("NSC")
Planning & Drawing Office
White Pages Recharge
Bad Debt charge
Regulatory
Infrastructure Support
KC internal service lines
KCOM overheads

5. Attribution Methods

The cost centres that appear in the cascade are attributed to the Tiers, and to the respective Markets, using some pre-determined attribution methods.

These attribution methods have been developed by KC, using their knowledge of the business structure.

KC's approach to this process of attributing costs to the Markets, the activities and the components, can be summarised as follows:

a) review each item of cost,
b) establish the cost driver i.e. the process that caused the cost to be incurred,
c) use this driver to attribute the costs to the activities and the Markets

Listed below are all the cost centres in the KC cascade model and the attribution methods used to allocate them across the activities and Markets.

1 Depreciation

The depreciation charges have all been specifically allocated to the Markets, components or activities that have incurred the capital expenditure.
Whether the capex is traffic or non-traffic sensitive will determine which component the charge falls directly into. Otherwise the charge will fall into an appropriate cost centre. *e.g. the charge relating to the purchase of the PCO coinboxes would fall directly into the Coin Box Maintenance department, in Tier 7.*

2 Transport

The fleet is split between commercial vehicles and the leased car vehicles.
Leased vehicle costs are allocated to the cost centres that receive the benefit of them.

3 Buildings (including the Security and Building recharge)

All the buildings that KC occupies have been measured and allocated according to the floor space occupied.

With office accommodation, the KC department that occupies the floor space, has been allocated the portion of that building cost, from the Tier 3.

In the case of the 15 Exchange buildings, the attribution has been made directly to a business component, based upon the occupation of the exchange building by traffic sensitive or non-traffic sensitive parts of the exchange equipment, respectively, on a 'footprint' basis. The spare building capacity, as in the West and Beverley exchanges, has had the apportioned charge allocated directly to the relevant business, as it is used as storage.

4   Payroll & Pension Administration

This is allocated to the cost centres based upon the employee numbers in each KC department.

5   KC's Own Use of PABX Telephone rental and call charges

Allocated to the cost centres using the call logger, which shows each department usage.

6   Insurance

Insurance costs are incorporated in the Corporate Recharge.

7   Personnel

Allocated using the cost centres based upon the employee numbers in each KC department.

8   I.T.

The I.T. department analyse their costs, including depreciation on hardware from Tier 1, using specific item codes to track their costs to specific budget holders and hence cost centres. This 'job/time costing' analysis has enabled allocation of the IT costs down the Tiers. This standard job costing system also allocates out the apportioned overheads attributable to IT from previous Tiers, based on direct labour percentages.

9   Marketing

Marketing is split in the nominal ledger into the following functions :-

- Residential Marketing
All costs relate to residential retail analogue in the Licenced Area with the exception of those associated with EYE, which are extracted through application of the proportion of marketing spend attributable to EYE from the accounting codes.

- Business Marketing
As with residential activity, all costs relate to business retail analogue in the Licenced Area with the exception of those associated with EYE, which are extracted through application of the proportion of marketing spend attributable to EYE from the accounting codes.

- *Internet*
All of these costs relate specifically to marketing KC's internet products. The costs are split between the various internet products by revenue.

- Public Relations
Public Relations costs relating to KC are attributed to the relevant Markets again using the job allocation.

10   Finance

The Finance division is split into 7 departments.
These are:

- Purchasing and Purchase Ledger
These costs have been allocated to the lower tiers by analysis of the number of purchase invoices processed.

- Accounting
Split over cost centres using an activity analysis of the staff involved.

- Credit Control
Charged to the Markets on the value of bad debt

- Credit Posting
The Credit Posting section posts the payment to the customers' personal accounts. A percentage of their work involves investigating and posting other KCOM division companies monies received. This falls outside this model.

The other costs relating to Credit Posting are attributed directly to the Markets on the basis of the number of sheets within a bill.

- Cashiers
The costs of the cashiers are split on the number of sheets in each bill. This excludes leased lines as business customers would not use the cashiers section.

- Coin Collectors
This department is responsible for the physical collection of coins deposited in each of the Public Payphones in the Hull licenced area. These costs have been wholly attributable to the payphones business as it is call revenue they are collecting.

- I.T Liaison
The objectives of this section are both to ensure that billing functionality for KC is effective and also to contribute to the ongoing enhancement of systems so as to ensure smooth implementation, effective testing and accurate procedures within a quality environment.

The costs are attributed directly to the Markets on the value of services billed.

11   Customer Services

This is the customer facing department that deals with any queries from the customer either through the post or on the telephone, in a call centre type environment.

Their costs have been directly attributable to the Markets using call statistics from the call logger that is able to produce an analysis of each type of incoming call.

12   Executives and Admin Support

The KC directors complete detailed activity analysis that cover their respective areas of activity.

The costs are then attributed to the cost centres using this information.

13 Interconnection

KC receive interconnect income and interconnect recharges from the Engineering, Network and Operations division who act as a central organiser for interconnect for KCOM. The costs associated with the provision of these services are allocated to services outside the Hull licenced area whilst those costs provided by staff inside this area are attributed to wholesale call origination.

14 Cable Maintenance

This is the department responsible for maintaining the KC network, although it does not include the final drop to customer premises. The costs for the latter are included in Minor Network.

Cable maintenance costs are directly attributable to the Markets using the CCA Gross Book Values ("GRC") of the local loop and the transmission assets.

15 Exchange Maintenance

This is the department responsible for maintaining the exchange equipment.

The costs, net of a minimal recharge, are directly attributable to the Markets using the CCA GRC of the exchange asset investment. They have to be attributed to the Markets using the traffic sensitive and non-traffic sensitive portions.

16 Exchange Planning

This is the department responsible for planning the exchange equipment investment, structure and inter-exchange links. They spend their time calculating the most efficient ways of utilising the network.

The costs are directly attributable to the Markets using the GRC of the exchange asset investment. They have to be attributed to components using the traffic sensitive and non-traffic sensitive portions respectively.

17 Minor Network

Minor Network deal with the installations i.e. the last drop into the customer's premises. Underground costs are capitalised and overground costs are expensed. Also incorporated under this heading is the cross-connection work done in the exchange MDF. These costs fall directly into the relevant business.

18 Fitters Private Circuits

This section is dedicated to the fitting of Private Circuits. The costs are apportioned to the various products of Private Circuits by number of connections.

19   Project Management

Project Management deals with major projects ongoing in KC. All costs refer to development of services outside the Hull licenced area and are divided equally between the networks in Lincolnshire and East Yorkshire

20   Service Development & Design

This department deals with evaluation of the latest technology within Telecoms and its implementation into KC. Calls are apportioned initially to each service and then to each product within each service.

22   Service Management

The Service Management function is responsible for maintaining services within established Service Level Agreements . Costs are wholly attributable to the retail IP services

23   Customer Technical Support

This department receives and deals with problems from customers relating to Karoo products, both installation and ongoing maintenance. These costs have been wholly attributable to the Karoo internet business.

24   Maintenance Private Circuits

A section designated to the maintenance of Private Circuits.   The costs are apportioned to the various products of Private Circuits by number of connections.

25   Broadband Engineering

Responsible for the installation and maintenance of private circuits and DSL services this department's costs are apportioned by product on the basis of the number of lines rented.

26   Operations Support

This section drives and champions continuous improvement in the delivery of IP services.. Costs are apportioned across the retail IP service portfolio..

27   Network Quality

Activity analyses are undertaken in this department covering the BABT approvals procedures, Comparable Performance Indicators (CPI) statistics, Billing verification and quality standards such as ISO9002. The results are charged to the Markets on the number of bills produced for the year.

28   Coin Box Maintenance

This is the department responsible for the public payphones and their maintenance. These costs have been wholly attributable to the payphones business.

.

29 Operators

Operator services are outsourced to Kingston Contact Centres (KCC) which acts as the call-handling centre for Directory Enquiries and general number enquiries. Costs of services pertaining to the KC obligations are recharged. KCC maintains records of data relating to such services and its analysis is used to apportion the costs to the Markets.

30 Consumer Products Maintenance

This is the department that is responsible for investigating and fixing reported faults and maintaining the drop leads.

The department is split into various cost centres that represent the processes involved in maintaining the circuit connection. The costs for maintenance from the DLE/RCU, up to the Network Terminating Unit (NTU), and beyond the NTU are separated out via general ledger codes. The costs for the maintenance to the rented instruments are split out. These cost centres are then attributed to the relevant business using the detailed fault call records.

31 Consumer Products Rented

These are the costs associated with the rental of instruments e.g. corded telephones to KC customers.
They predominantly involve stores issues.
All of the costs are taken directly to the Retail market Residual

32 Network Service Centre

This is the fault and repair-handling centre.

The costs have been attributable using the detailed fault records (RSC) kept to comply with BABT and to enable Comparable Performance Indicators (CPI) records to be collated.

33 Planning & Drawing Office

This is the department responsible for planning the KC duct and cable network.

The costs are directly attributable to the Markets using the CCA Gross Book Values ("GRC") of the local loop and the transmission assets.

34 Bad Debt Charge

The cost driver for the bad debt charge is the type of revenue that is written off.

KC analyses a sample of bad debt write offs and determines the attribution between Markets.

35 Internet Infrastructure Services

This department is responsible for the delivery of internet related infrastructure to appropriate quality levels. Costs are apportioned over the retail product set.

36 Regulatory

This department is responsible for the adherence of the business to standards established by the regulatory authorities and its costs are apportioned first using the wholesale / retail corporate activity split, then by FTEs in the business and finally by revenue.

37 KCOM Overheads

The overheads due from KCOM that are attributable to KC, are split into 6 key head office departments. All of the following costs have been reviewed to determine whether they are wholesale, retail or both wholesale and retail costs. They are then apportioned using both FTE's in the business and finally revenue:

- *Business Development*
This section includes the Technical Directorate department.

- *CEO Office*

- *Corporate Finance & Treasury*

- *Legal*

- *Human Resources*
This overhead includes the payroll and the security function, together with the Human Resources function.

- *P.R*
This is the Corporate Public Relations function, responsible for communications at Group level.

38 Attribution of Costs to Individual Products and Markets

Following the initial cost cascade there is a further attribution into product sets. This utilizes specially developed routing factors for engineering based elements and further product specific cost drivers for remaining elements. Costs and revenues associated with non regulated areas such as mobile, East Yorkshire Expansion (EYE) area and CPS are largely extracted within the trial balance. However, there are areas of overlap with the network of EYE and the assets and costs associated with such network are drawn out by the routing factor attribution.

38.1 Revenue

Line rental and connection revenue booked through the accounts is separately identified as business or residential. Business line rentals are enhanced by the addition of centrex for which rental revenue is also separately identified. The split between analogue and digital is also

largely drawn out in the accounting codes (ISDN2) with 'Superway' values derived through line volumes and tariff structures.

Call origination revenue uses revenue proportions from primary database records to allocate the majority, Local, Payphone and Directory Enquiries being the exceptions with their own account codes. Fixed call termination revenues are derived in the same manner from interconnect records.

Leased line revenue, both traditional and alternative symmetric interfaces, is drawn directly from account codes below 2Mb with all bandwidths above this being derived through allocating product group specific revenue to their individual components by reference to the volume of lines rented against their respective tariffs.

DSL and narrowband internet, together with all residual product areas, are drawn directly from the respective account codes.

38.2   Direct Costs

Direct costs primarily constitute interconnect costs and are allocated by reference to proportions drawn from a sample month's interconnect traffic.

Outpayments are payments to customers taking NTS services.

Bandwidth charges relating to internet services are directly allocated.

38.3   Overheads by Product

38.3.1 Engineering Infrastructure

A routing factor table has been developed which relates key building blocks to product sets. These building blocks are asset based and consist of :

CORE Trenches, ducts, bores & chambers	Concentrator
ACCESS Trenches, ducts, bores & chambers	Processor
Copper pair cables	IN system
Fibre cables	Multi service platformTV head end
Optical Ethernet NTP	TV service distribution node
CPE/NTP PC/LL sub E1	Payphone booth
E1& N x 64	Payphone instrument
CPE/NTP PC/LL >E1	Interconnects
CPE/NTP POTS	Assistance centres
CPE/NTP ISDN2	Inter - operator billing systems
CPE/NTP ISDN 30	Teradyne system for copper lines
BB CPE Ethernet modem	Payphone management system
Fibre cables	NMSs for Marconi SDH plus Fujitsu SDH
SDH ADMs, XCs	Leased Line Management
Tier 1& 2 ATM switches	Trouble Ticketing & Service Mgt (Access)
ATM DSLAMOptical Ethernet switches	Trouble Ticketing & Service Mgt (Core)
Thunderdial	System X NMS and 'Metrica' system

Each building block has a CCA asset value associated with it. Those maintenance cost centres concerned with the underlying infrastructure, and not applicable to any individual product, are aggregated with the total being split into the building blocks in direct proportion to the underlying asset. Such network engineering costs are encapsulated in the cost centres - Cable Maintenance, Exchange Maintenance, Exchange Planning and the Planning and Drawing Office.

The total for each building block is then apportioned through the routing matrix to individual products using the variables of call traffic minutes, number of circuit connections, or number of circuit rentals. Individual outputs feed directly into the wholesale maintenance product statement where they appertain to regulated services. Maintenance associated with non regulated areas like the East Yorkshire Expansion (EYE) network is taken directly to the residual cost base. Throughout the model all fixed asset based costs appear only as wholesale elements as the retail element is a rental of network assets for resale. Explanation of the routing factor calculation is covered in Section 8.

38.3.2 Other Overheads

Each of the remaining outputs from the Cost Cascade is allocated in the following way :

Depreciation	For assets that are non-product specific, those constituting the infrastructure over which products are delivered, HCA depreciation is apportioned to individual products by using the proportion of an operational cost e.g. maintenance, allocated to the product, as a proportion of the total operational cost for all products. This is then multiplied by the amount of HCA depreciation allocated to the operational cost line across all products.
	CCA depreciation is calculated for each building block and apportioned directly to each product via the routing factors, the difference between the HCA and the CCA depreciation being assigned to the statements in the Supplementary Depreciation line.
Interconnect	Residual Product, Planning and Policy costs are allocated in full to Call Origination
Minor Networks	These costs are associated with the maintenance of standard analogue and ISDN lines. Allocation of cost is by reference to each group as a proportion of the total number of such lines
Finance & Directors	Costs of these areas not allocated in the cost cascade have been apportioned in equal parts between internet, Lincs Network, Mobile and

	EYE as activity has been centred on development of these product sets during the year.
Transport and IT Operations	Those elements relevant to registered product sets are allocated to the other cost centres through the cost cascade; the residual has been allocated to EYE
Project Management	Project Management during the year has centred on developing EYE and Lincs Network product sets and costs are equally divided between these.
Fitters Private Circuits	Focused on both traditional and alternative symmetric interface private wires costs are apportioned based on circuit numbers being maintained.
IT Liaison and Credit Control Cashiers and Quality	Driven by bill volume to customers, product groups are further subdivided into individual products by reference to their proportion of that group's total revenue
Service Development & Design	Costs are allocated according to product activity levels
Coin Box Maintenance & Coin Collectors	Attributed in total to Payphones
Broadband Engineering	Split between broadband product sets in relation to the number of supported circuits
Customer Technical Support Service Management Operations Support Internet Infrastructure Services	Allocation between Karoo product sets on a revenue proportion basis
Operators	Cost attribution based on Contact Centres time records of DQ, operator assistance and emergency calls
Shop Customer Products Rented	Residual activities
Bad Debts	Allocated by sample of bad debts and further split within product groups on a revenue apportionment basis
Marketing	Marketing is split by product group within accounts. Further subdivision within product group is on a revenue apportionment basis
Customer Product Maintenance Network Service Centre	Attributed on basis of fault statistics from sample month in year
Private Circuit Maintenance	Allocated to individual bandwidths on basis of the number of 64kbps circuits supported
Corporate Charges Regulatory	Activities of Corporate have been analysed to determine whether they are retail or wholesale based. These are then applied to the individual product sets, including allocation to the non

	regulated activities, and finally allocated individually by revenue
White Pages	Attributed to residential and business lines in proportion to total analogue lines
Customer Acquisition	Sales are attributed to products on basis of order intake from Sales for the year
Customer Assistance	Split using time allocation to products
Other Costs	All other costs are specifically coded to non regulated Markets and not further divided

At this stage the operating costs and current cost depreciation adjustments have been derived by product area and aggregated into Market financial statements.

Those areas that are not specifically included in the Hull network form part of the residual statements and include the East Yorkshire Expansion (EYE) area, Lincolnshire Network, Lightstream superfast internet services and mobile products. These have not been separated into product detail though interfaces with the Hull network have been identified and traffic separated accordingly. Adjustments to the network components have been made using ratios reflecting the percentage of EYE minutes to total KC minutes, reducing the Network business costs prior to CCA and component calculations. This is to reflect the sharing of the infrastructure, switching and transmission equipment, and the P, P & P.

The methodologies described from section 7 onwards are then applied. This enables KC to determine an interconnection charge per minute using these network components. Routing tables split SMP product sets into defined Network components. These include :

- Exchange concentrator
- Exchange processor
- Exchange-exchange transmission link
- Exchange-exchange transmission length
- National operator assistance
- Emergency operator assistance
- Product, Policy & Planning (P,P&P) for narrowband services
- Local Loop Infrastructure
- Customer support
- Customer acquisition
- Wholesale charges

From this is derived the reference interconnect offer which takes the component costs for each SMP market and apportions them against the variable drivers of minutes and lines.
In producing this reference interconnect offer it should be noted that KCOM has followed B.T's Retail Tariff Gradient when pricing interconnect call services.

6. <u>Attribution Methods of the Balance Sheet</u>

- ### <u>Fixed Assets</u>

Fixed assets allocation to Markets activities and components is covered in Section 7.

- ### <u>Current Assets and Liabilities</u>

  - *Stocks*

  The stock value has been apportioned over the Markets where stock issues have been made based upon operating costs incurred.

  - *Debtors*

  KC operates with a number of debtor control accounts. A debtor days calculation is used to derive an average debtors balance per market.

  - *Creditors*

  KC operates with a number of creditor control accounts. A creditor days calculation is used to derive an average creditors balance per market.

7. Detailed Valuation Methodology and Current Cost Valuation

Introduction

This section explains the methodology used to estimate:

♦ current cost values for KC's local loop assets;
♦ current cost values for KC's exchange equipment (including SDH and other transmission equipment);
♦ current cost values for KC's junction network;
♦ current cost valuations for KC's other assets including customer premises equipment relating to ISDN and leased lines, network termination point equipment, modems, payphones and TV head end and control systems, network management systems and buildings;
♦ origin-destination matrices for local calls, outgoing and incoming calls, and other special call types such as operator or Internet calls;
♦ routing factors (which convert traffic minutes into network component usage minutes) for different types of call; and
♦ routing factors for services such as retail and wholesale lines, broadband, private circuits, etc.

7.1.1 Basis of Preparation of the Current Cost Statements

The current cost statements for KCOM are prepared under the financial capital maintenance convention in accordance with the principles set out in the handbook "Accounting for the effects of changing prices", published in 1986 by the Accounting Standards Committee (ASC) except as stated below.

In the current cost Balance Sheet, KCOM's assets are stated at their value to the business, usually equivalent to their net current replacement value. Adjusting the historical cost profit to take into account the changes in asset values generates the CCA values for each individual business. Normally, at Group level in order to comply with the ASC, an adjustment for the erosion in purchasing power during the year due to general inflation, arrives at current cost profit. This has not been done because shareholders funds are not attributed to individual Markets and this adjustment requires this to be made.

Changes in asset values due to changing price levels are referred to as unrealised holding gains or losses.

7.1.2 Principles of Valuation of Fixed Assets

Assets are stated in the Balance Sheet at their value to the business, usually equivalent to their Net Current Replacement Cost (NRC). This is generally derived from the asset's Gross Replacement Cost (GRC) and is the current purchase price of an identical new asset or the modern equivalent asset (MEA) with the same service potential. For the purposes of calculating GRC, network assets relating to cable and duct are valued based upon their original GBV in relation to physical network developments

The methods employed and examples of assets valued using each method are given in the following table:

_____

Valuation assumption	Valuation method	Example
Existing technology	Absolute valuation Or Indexation	Access fibre cable Personal computers
Modern Equivalent Asset (MEA)	Absolute valuation, indexed where appropriate	Local exchanges
Low value / short life	Historical cost	Some customer equipment, e.g. telephones, telephone ancillaries.

7.2   Current Cost Valuation of Local Loop Assets

The valuation of local loop assets was based on the following data:

1. Total pair kilometres of main copper cable ("E-side" cable) derived from an audit by KC staff of cable length and cable sizes (pairs per cable) carried out in 2002 and an analysis of subsequent additions;
2. Total pair kilometres of distribution copper cable ("D-side" cable) per street cabinet derived from sample surveys of the length of cable and number of pairs per cable in different areas. The surveys were carried out by KC staff in 2002. The total pair kilometres of D-side cable were then derived by multiplying by the number of pair kilometres per street cabinet by the current number of street cabinets;
3. Average number of pairs per cable derived from the data described in 1 and 2 above;
4. Implied total length of cable derived by dividing total pair kilometres (1 and 2 above) by the average number of pairs per cable (3 above);
5. Total local loop track (i.e. trench) length derived from an audit carried out in 2004 and updated in 2011;
6. Data on costs of copper cable by cable size and commissioning costs per metre derived from contracts for work undertaken in 2004 and indexed against London Metal Exchange copper price movements.
7. Data on trench costs per metre based on the cost of digging 2 bore trench in 1998/9 indexed to allow for changes in duct and labour costs. The price indices were based on KC's experience;
8. Separating out the information for the licensed area (EYD) and the unlicensed area (EYE).

The value of fibre in the access network was derived using data on the length of fibre cables of different capacity and recent data on the per metre purchase costs of fibre cables of different capacity.

7.3   Current Cost Valuation of Exchange Equipment

In 1997/8 KC valued the equipment in each of its exchanges by carrying out a physical count of the different types of asset at each exchange and then deriving the current purchase cost using information on prices from recent purchase contracts. The same approach was not, however, possible for the year in review as KC has made few recent purchases of exchange equipment and hence does not have information on current purchase prices.

The approach adopted was as follows:

♦ Start with the equipment at each exchange that was valued at current purchase prices in 1997/8 and which is still in existence;
♦ Revalue that equipment to current prices by applying appropriate price indices;
♦ Identify from the asset register all subsequent equipment purchases by type of asset at each exchange in each year from 1998/9 to the current year;
♦ For all such equipment that is still in existence revalue the equipment in current year prices by applying appropriate price indices.

The price indices used were:

♦ UK price index for electrical apparatus for line telephony and telegraphy, which was used to revalue the following types of exchange asset:
  ♦ ISDN primary and basic rate units;
  ♦ Concentrator equipment;
  ♦ SDH and other transmission equipment;
  ♦ IN platform;
  ♦ Testing and miscellaneous equipment.
♦ US price index for switching and switchboard equipment converted to UK price index using PPP exchange rates, which was used to revalue: [1]
  ♦ Switching equipment.
♦ UK price index for computers and other data processing equipment, which was used to revalue:
  ♦ Processor equipment;
  ♦ ATM switches and ADSL equipment;
  ♦ Converse voice platform.
♦ US price index for software converted to a UK index using PPP exchange rates, which was used to revalue: [2]
  ♦ Software.

The next step was to spread other equipment and labour installation costs, which cannot be identified with specific activities, pro rata across the other equipment costs.

In addition to the assets identified above, it was necessary to take account of the costs of floor preparation, air conditioning equipment, generators, batteries, power supply, and spares of all types of equipment.

The cost of floor preparation was derived from a study carried out by KC staff in 2004.
As with the other equipment and labour installation costs the additional investment costs are spread pro rata across the different types of exchange equipment.[3]

---

[1] The use of a US price index converted to a UK one using PPP exchange rates was necessitated by the absence of a comparable UK index.

[2] See footnote 2.

[3] The only difference is that a proportionate share of additional investment costs is allocated to optical Ethernet which shares the use of exchange buildings.

A similar analysis to that described above was also carried out for exchange equipment in KC's new exchange at Driffield which serves customers outside the company's licensed area.

The final step was to separate the non-traffic sensitive concentrator costs from the traffic sensitive ones. Non-traffic sensitive concentrator costs were based on a survey carried out in 2001. KC's view is that these costs have remained unchanged. Based on this figure, it is possible to calculate total non-traffic sensitive costs and hence the proportion of non-traffic sensitive concentrator costs in total concentrator costs.

7.4   Current Cost Valuation of Junction Network

The value of duct and fibre in the junction transmission network was estimated by measuring the total route length in the junction network and multiplying this by the current per kilometre cost of duct and trench. The latter was based on the size of trench and number of bores of duct required to provide both junction transmission capacity and access network capacity where the junction transmission and access networks share trenches and ducts.

The calculation was based on the use of 240 fibre cable, which is assumed to be the modern equivalent asset.[4] The price used was based on 2005 contract prices. For trench and duct a weighted average price was derived taking account of the distribution of trench sizes (reflecting the number of duct bores) and assuming 90% footway and 10% carriageway. The trench and duct prices were derived by indexing 1998/9 costs. More recent data was not used because recent trench digging has tended to be in areas not representative of KC's licensed area as a whole.

Valuation was conducted both for KC's licensed area and for the area that it now serves that lies outside the boundary of its licensed area.

The junction network duct and cable costs have been allocated to different user services as follows:

♦ Fibre costs have been allocated to user services based on an analysis of fibre strand usage;
♦ In the case of duct (and trench) costs, it is not possible to use this allocation method because local loop fibre and copper cable also share the use of the junction network. Duct (and trench) costs have therefore been allocated across user services in proportion to attributable costs.

---

[4]   Substantial parts of KCCBIS's network already use 240 fibre cable, reflecting broadband requirements.

7.5   Current Cost Valuation of Other Assets

7.5.1 Miscellaneous Non-Exchange Equipment

A variety of other pieces of non-exchange equipment have been valued in current cost terms.

These include:

♦ Active street cabinets (which are used outside the licensed area);
♦ Customer premises equipment relating to ISDN and leased lines;,
♦ Network termination point equipment for ordinary exchange lines, ISDN lines, leased lines and optical Ethernet;
♦ Ethernet modems;
♦ Optical Ethernet switches which are not in exchanges (i.e. they are at customer premises)
♦ Payphones equipment;
♦ Payphone kiosks;

In each case either the current volume of equipment has been multiplied by the current purchase price (derived from recent purchase contracts) or the historic purchase value has been indexed using information derived by KC about how equipment prices have changed between the historic purchase date and the present time.

7.5.2   Network Management Systems

Network management systems have been valued at current cost by taking the historic purchase price of each piece of equipment and applying the UK general communications equipment price index.

7.5.3   Buildings

These buildings, which are principally exchange buildings, have been revalued by KC by extrapolating the changes in the rateable values of buildings that occurred between 1995 and 2000.

8. Methodology used to Estimate Traffic Minutes and Routing Factors for Different Types of Call

8.1   Origin-Destination Call Matrices

In order to derive call routing factors it is necessary to estimate the volumes of calls taking different routes through the network.

8.1.1   Own Host Calls

For local calls it is important to identify how many calls are own host (and hence only pass through one switch) and how many pass through more than one switch. This was done by:

♦ using data from a traffic survey to identify:
  ♦ the amount of own host traffic passing through each of the five host switches in KC's network during the busy hour;
  ♦ the proportion of daily traffic falling within the busy hour;
  ♦ and hence the average daily own host traffic;
♦ adjusting from holding time minutes to conversation minutes;
♦ grossing up the figures on an annual basis.

The next step was to estimate the origin and destination of calls that stay within each of the five exchange groups.[5] This was done by:

♦ assuming that, for each exchange in a group, its share of own host calls is equal to its share of total local calls;
♦ assuming that local call terminations are in proportion to local call originations.

8.1.2   Inter-Host Local Calls

The origin-destination matrix for inter-host local calls was derived as follows:

♦ first, for each of the 14 exchanges in KC's network, the volume of originated inter-host local call minutes was derived by subtracting the volume of own host originated traffic from the total local call minutes originated by the exchange;
♦ the inter-host local call minutes are apportioned to different destination exchanges (outside a processor site exchange group) in proportion to the number of local calls originated by each of the destination exchanges. The equivalent calculation is repeated for each of the destination exchanges outside the same processor site exchange group;
♦ finally, the same process is repeated for the originating inter-host traffic generated by each of the remaining exchanges.

---

[5]   The five exchange groups are as follows: **East** (host), Bransholme, Bilton and Hedon; **West** (host), Hessle, Ferriby, Brough and Kirkella; **Newland** (host), Cottingham and North; **Beverley** (host); **Civic** (host).

8.1.3   Outgoing and Incoming Calls

The process for identifying the origin and destination (within the KC network) of calls that ultimately terminate or originate outside KC's network is much simpler.

From KC traffic data, we know that, in aggregate, x% of outgoing calls are routed to Civic exchange where they are passed on to other operators (BT, CWC and KCOM). y% are routed to West exchange and passed on to other operators (BT, CWC and KCOM).   The remaining (100-x-y))% are routed to Beverley, East or Newland where they are handed on to KCOM. In the absence of other information, it is assumed that these percentages apply to outgoing traffic from each and every exchange in KC's network. Thus, for example, x% of outgoing calls originating on lines connected to East exchange are assumed to be routed to Civic, where they are handed over to other operators. Similarly y% are routed to West. These percentages can then be applied to the number of outgoing conversation minutes originating from each exchange, which is derived from billing records.

For incoming calls, a% enter the KC network at Civic and (100-a)% at West. Again, these proportions are assumed to apply to each and every exchange in the KC network. The volume of incoming calls terminating on each KC exchange, which is not recorded, is estimated by assuming that the KC aggregate ratio of incoming to outgoing call minutes applies to each and every exchange.

8.1.4   Other Calls

There are a number of other call types with distinct routings within the KC network. These are:

♦   Internet dial up
♦   Operator
♦   Centrex
♦   IDA (C&W)
♦   EYE transit

Internet calls are handled by dial-up servers at Civic exchange sites. Calls are routed directly to those servers from the originating exchange, hence there is only one switching step involved.

Operator calls are handled at Civic and West sites.

Centrex calls are handled at Civic and Newland.

Indirect access calls to Cable & Wireless are handled via Civic.

All EYE customers are parented off Newland exchange. Consequently, all **EYE transit traffic** enters the network at Newland, and egresses through the five outgoing interconnect sites, on the same proportional basis as the rest of the outgoing interconnecting traffic. By including a routing factor for EYE transit calls, the resources of KC's network that are consumed by EYE transit traffic can be separately costed, and excluded from the costs of the resources employed for the licensed-area traffic.

8.2   Call Routing Factors

Having estimated origin-destination matrices for different types of call, based on call minutes, the next task is to convert these into matrices based on network component use minutes. In order to do this, three types of network component were identified:

♦ switches;
♦ exchange transmission equipment;
♦ junction transmission duct and fibre.

For switching, calls either pass through one switch, if they are own host, or otherwise pass through two switches. A matrix giving the number of switching "steps" for different call routes is then derived.

For transmission equipment, the number of steps is determined by the number of separate junction transmission links through which a call passes. Depending on the route, this can range from zero, if the originator and recipient of a call both have lines directly connected to the same host switch, to three if the originator and recipient both have lines connected to a remote concentrator and two switching steps (and hence an intermediate transmission link) are required. A transmission equipment step matrix is then derived.

Finally, different routes will involve different distances and hence use of transmission duct and cable. For each route, the average distance was computed taking account of the lengths of transmission links between exchanges for the shortest route. The use of the shortest route, rather than alternate path, or ring distances, avoids two anomalies.

Firstly, in pure SDH ring networks, an assumption of 50% of traffic going around rings in each direction leads to all routes being half the circumference and exactly the same length. Secondly, the ring structure is in place not to reach B from A, but to provide resilience in the event of a failure. As such, it can be considered a supplementary investment in quality, not in traffic carrying capacity. The excess costs of a ring over and above the costs necessitated by the minimum distance network for reachability are caused by the requirement for quality, not the requirement to reach a certain distance, and can be treated as a kind of 'quality surcharge'.

The key factor in distance resource usage allocation is the basic, reachable distance from A to B, and it is those distances which have been employed in the usage factor tables. A junction cable and duct distance matrix is then derived.

All these matrices can be combined with the origin-destinations matrices for different types of call to obtain routing factors (i.e. the average number of component steps per call) for each type of call. For local calls, for example, the average number of switching steps per call is estimated by:

♦ multiplying the number of switching steps per call for each route by the number of local call minutes taking that route and summing across all routes to give the total number of local call switch step minutes;
♦ dividing by the total number of local call minutes.

This process is then repeated for transmission steps and junction transmission length. Exactly the same procedure is followed to obtain the equivalent routing factors for outgoing and incoming calls.

Given an estimate of the unit cost of each type of component, it is possible to estimate the unit cost of each type of call by applying these routing factors. The unit cost of a particular type of call is given by:

$$(R_{si} \times C_s) + (R_{ti} \times C_t) + (R_{ji} \times C_j)$$

where R stands for routing factor and C for unit component cost; the subscripts s, t and j represent switching, transmission equipment and junction transmission respectively; and the subscript i represents the type of call.

In order to estimate the unit component cost, it is necessary to divide the annual cost of the component, which has been calculated by KC, and divide it by the estimated total number of component step minutes. The latter can be derived as an output from the procedure used for estimating routing factors. In this case, the total number of local call switch step minutes is added to the similarly derived total number of outgoing call switch step minutes and incoming call switch step minutes to get a grand total for the number of switch step minutes. A similar procedure is followed for the two other components.

8.3   Routing Factors for Unswitched Services

Unswitched services also employ shared network resources, and routing factors have been calculated to the relative usage of the shared network resources by the unswitched services. Unswitched services include:

♦ Private circuits
♦ Retail lines
♦ Wholesale line rental
♦ Asymmetric broadband origination
♦ Broadband retail
♦ Interconnection circuits

8.3.1   Approach for unswitched services

Connection of these services for a customer incurs a cost, as does the continuing operation of the service which is charged as a rental. Resource usage factors are calculated separately for connection, and for rental.

Connection factors are calculated for the customer specific, non-traffic sensitive costs. These will include a drop circuit from an access trench to a customer, for example, as well as any costs of customer premises equipment (CPE).

Rental factors are calculated for the non-customer specific non-traffic sensitive costs (such as the access network shared by all customers) and for the non-customer specific traffic sensitive costs (such as the core transmission network).

Some services are considered not to be burdened by connection costs - an example is an ADSL service. Ofcom's 'DSL decision' requires that PSTN lines absorb all the costs of connection and rental of the access network, and that ADSL services incur only the costs of the equipment deployed to provide the ADSL service over an existing PSTN line. Accordingly, for all DSL services, there are no connection routing factors and the routing factor for the access network is '0'.

The core of the KC network remains SDH. SDH network costs are traffic sensitive, and the routing factor unit employed in these calculations is an E1 (2Mbit/s channel) or E1 equivalent. The same factor of proportional bandwidth usage is employed for core trench usage.

8.3.2   Private circuits

8.3.2.1   Connection

The numbers of CPE required at each end of the circuit are calculated for connection routing factors for CPE. Active Service Cabinets (ASCs) employ no traffic sensitive elements, and the circuits through the equipment are dedicated to each customer served, ie, customer specific. The proportion of lines served by Active Service Cabinets is used for the connection routing factor for ASCs.

8.3.2.2   Rental

Rental routing factors for the Access network trench and cables are calculated by estimation of the numbers of cables required for each private circuit. Routing factors for the traffic sensitive network resources, such as core trenches, transmission equipment and cables are derived from the E1 equivalent capacity of the private circuit. Sub 64k circuits are assigned the same factor as 64k circuits, representing the time slot usage based on rate adaption to 64k rather than sub-multiplexing.

These routing factors will be applied to the proportions of junction transmission costs that are allocated to leased lines (see above).

8.3.3   Retail Lines

The routing factors for Retail Lines adhere to the dual principles of:

♦ Connection factors calculated for the customer specific, non-traffic sensitive costs, and
♦ Rental factors calculated for the non-customer specific non-traffic sensitive costs

Routing factors are the same for analogue and ISDN2 retail lines, whether residential or business. Routing factors for ISDN30 lines differ slightly, reflecting special engineering required in a percentage of cases (see below).

8.3.3.1   Analogue and ISDN2 lines

One CPE is required at the customer end of the circuit and gives rise to the connection routing factors for CPE. A small proportion of lines are served by Active Service Cabinets (ASCs). These employ no traffic sensitive elements, and the circuits through the equipment are dedicated to each customer served, ie, customer specific. As a result, a routing factor is

employed to ensure that the costs of ASCs are attributed to connection. The proportion of lines served by Active Service Cabinets is used for the connection routing factor for ASCs.

Rental routing factors for the Access network trench and cables are calculated counting the single cable required for each rented line.

Routing factors for the traffic sensitive network resources, such as core trenches, transmission equipment, switching equipment and cables are zero since these costs, being traffic sensitive, are allocated to the per minute call traffic.

8.3.3.2   ISDN30 lines

ISDN30 lines are delivered using transmission equipment, whereas analogue and PSTN lines are not. Hence there is a routing factor for transmission equipment in the case of ISDN30 lines. This factor would be calculated by counting the numbers of transmission equipment steps employed in the line, which is normally 2. ISDN30 routing factors differ further from analogue ISDN30 line routing factors in respect of special engineering required in a percentage of cases.

KC's transmission experts advise that these access lines are sometimes forwarded to an ISDN30 equipped concentrator elsewhere, and using another SDH equipment hop and one SDH core transmission hop in each case. The line rental routing factors include special allowance of 0.1 for the use made of core fibre cables in this instance, and an addition of 0.1 to the factor already having the value 2 reflecting the use required of SDH equipment in permanent provision of this service.

8.3.4   Wholesale Line Rental

The routing factors for Wholesale Line Rentals adhere to the same principles as the factors for Retail Lines, as would be expected because their use of network resources is identical. The key principles are, as previously stated:

♦ Connection factors calculated for the customer specific, non-traffic sensitive costs, and
♦ Rental factors calculated for the non-customer specific non-traffic sensitive costs

Routing factors are the same for wholesale analogue and ISDN2 retail lines, whether residential or business. Routing factors for wholesale ISDN30 lines differ slightly, reflecting special engineering required in a percentage of cases.

8.3.4.1   Analogue and ISDN2 lines

One CPE is required at the customer end of the circuit and gives rise to the connection routing factors for CPE. A small proportion of lines are served by Active Service Cabinets (ASCs). These employ no traffic sensitive elements, and the circuits through the equipment are dedicated to each customer served, ie, customer specific. As a result, a routing factor is employed to ensure that the costs of ASCs are attributed to connection. The proportion of lines served by Active Service Cabinets is used for the connection routing factor for ASCs. Rental routing factors for the Access network trench and cables are calculated counting the single cable required for each rented line.

Routing factors for the traffic sensitive network resources, such as core trenches, transmission equipment, switching equipment and cables are zero since these costs, being traffic sensitive, are allocated to the per minute call traffic.

8.3.4.2 ISDN30 lines

Wholesale ISDN30 lines are delivered using transmission equipment, whereas analogue and PSTN lines are not. Hence there is a routing factor for transmission equipment in the case of ISDN30 lines. This factor would be calculated by counting the numbers of transmission equipment steps employed in the line, which is normally 2. ISDN30 routing factors differ further from analogue ISDN30 line routing factors in respect of special engineering required in a percentage of cases.

KC's transmission experts advise that these access lines are sometimes forwarded to an ISDN30 equipped concentrator elsewhere, and using another SDH equipment hop and one SDH core transmission hop in each case. The line rental routing factors include special allowance of 0.1 for the use made of core fibre cables in this instance, and an addition of 0.1 to the factor already having the value 2 reflecting the use required of SDH equipment in permanent provision of this service.

8.3.5 Asymmetric broadband origination

Asymmetric Broadband Origination employs the customer's access line and some multiplexer and packet switching equipment at the exchange sites.

Ofcom's 'DSL decision' requires that PSTN lines absorb all the costs of connection and rental of the access network, and that ADSL services incur only the costs of the equipment deployed to provide the ADSL service over an existing PSTN line. Accordingly, for all DSL services, there are no connection routing factors for the access line and the rental routing factor for the access network is '0'. Other network resources, such as the Ethernet modem at the CPE, and the use made of the ATM service equipment and the transmission network, result in calculated factors.

8.3.5.1 Connection

The CPE is non-traffic sensitive, and is customer specific, thus a routing factor for connection employed for the CPE - its value is 1 because there is 1 CPE unit employed for each connected service. KC do not employ different CPE units for different broadband service levels.

A few customers are connected through Active Service Cabinets (ASCs), and the costs of these are specific to the customers. A connection routing factor is calculated for ASCs, drawing on the proportion of customers connected via ASCs.

8.3.5.2 Rental

KC offers traffic shaped origination services of up to 24Mb/s. Traffic sensitive, and traffic-insensitive non-customer specific costs should be attributed to this service, other than costs of the physical access network.

Rental routing factors are calculated for core trenches (traffic insensitive non-customer specific), core fibre cables (traffic sensitive), Tier 1 & 2 ATM switches (traffic sensitive) and ATM DSLAMs (traffic and customer sensitive).

The core trench routing factors are calculated from the E1 equivalent capacity consumed by the services.

The core fibre routing factors are calculated from the E1 equivalent capacity consumed by the services.

The traffic sensitive factors for the ATM core equipment, and DSLAMs, are calculated in accordance with the fraction of 1Gps that the service employs.

8.3.6   Broadband (retail)

Retail Broadband employs the customer's access line and some multiplexer and packet switching equipment at the exchange sites.

Ofcom's 'DSL decision' requires that PSTN lines absorb all the costs of connection and rental of the access network, and that ADSL services incur only the costs of the equipment deployed to provide the ADSL service over an existing PSTN line. Accordingly, for all DSL services, there are no connection routing factors for the access line and the rental routing factor for the access network is '0'. Other network resources, such as the Ethernet modem at the CPE, and the use made of the ATM service equipment and the transmission network, result in calculated factors.

8.3.6.1   Connection

The CPE is non-traffic sensitive, and is customer specific, thus a routing factor for connection employed for the CPE - its value is 1 because there is 1 CPE unit employed for each connected service. KC do not employ different CPE units for different broadband service levels.

A few customers are connected through Active Service Cabinets (ASCs), and the costs of these are specific to the customers. A connection routing factor is calculated for ASCs, drawing on the proportion of customers connected via ASCs.

8.3.6.2   Rental

DSL up to 24Mbps, 2Mbps, 5Mbps, 10Mbps, 100Mbps, and 1Gbps services are offered by KC. Traffic sensitive, and traffic-insensitive non-customer specific costs should be attributed to this service, other than costs of the physical access network.

Rental routing factors are calculated for core trenches (traffic insensitive non-customer specific), core fibre cables (traffic sensitive), Tier 1 & 2 ATM switches (traffic sensitive) and ATM DSLAMs (traffic and customer sensitive).

The core trench routing factors are calculated from the E1 equivalent capacity consumed by the services.

The core fibre routing factors are calculated from the E1 equivalent capacity consumed by the services.

The traffic sensitive factors for the ATM core equipment, and DSLAMs, are calculated in accordance with the fraction of 1Gps that the service employs.

8.3.7 Interconnection circuits

8.3.7.1 Adjacent building

KC employ two types of interconnection circuit. One circuit is through a shared wall into an adjacent building belonging to another operator. The interconnection circuit employs the In-Span-Interconnect arrangement. In this arrangement, each operator shoulders the burden of half the equipment costs. A connection factor of '0.5' is entered for fibre cable.

8.3.7.2 Interconnect extension circuit

The other interconnection circuit uses an interconnect extension circuit specific to the interconnect site.

It employs Access trench, for which a routing factor of '1' is entered.

A fibre cable is dedicated to the service, and so a connection factor of '1' is entered.

It employs SDH transmission equipment for which a routing factor of '1' is entered.

8.3.7.3 Leased line interconnect

Costs of leased line interconnect are shared between operators. The routing factors for leased line interconnect are '1' for the access trench (KC shoulders the cost of the trench within the KC area), '1' for the Access fibre cable (KC shoulders the cost of the fibre within the KC area), and '1' for the SDH equipment (KC only supplies the equipment for its end of the circuit.).

8.4 Other Routing Factors

As an aide-memoire, we have included some non-network cost elements in the routing factor table so as to ensure that these common costs are also allocated in a suitable manner. These non-network factors are provided for:

♦ Ancillary systems (such as databases etc)
♦ Retail cost components
♦ Wholesale cost components

The factors for the resources are set to '1' wherever a service benefits from its use. In these cases, the factor is not a proportional usage factor, but instead an indicator that the costs should be allocated to these services using an appropriate allocation principle.

Appendix 1

Accounting Separation Framework

1st Tier	2nd Tier	3rd Tier	4th Tier	5th Tier	6th Tier	7th Tier
Depreciation	Transport	Buildings Recharge	Personnel	I.T	Finance	Interconnect
			Canteen Deficit		Customer Services	Cable Maintenance
			Payroll / Pension		Directors and Admin	Exchange Maintenance
			Admin. Recharge		Support	Exchange Planning
			Telephone Calls			
					Marketing:-	Minor Network
					Residential	MDF
					Business	Fitters Private Circuits
					Internet	Project Management
					Mobile	Service Development & Design
					P.R	Service Management
					CPS	Broadband Engineering
					Broadband T.V	Customer Technical Support
					Voice, Data & CPE	Maintenance Private Circuits
					Market Development	Operations Support
						Network Quality
						Coin Box Maintenance
						Operators
						Consumer Products Maintenance
						Customer Products Rented
						Directories
						V.A.N.S
						N.S.C
						Planning & Drawing Office
						White Pages Recharge
						Bad Debt Charge
						Service Lines
						Corporate Centre Overheads
Allocated to tiers:-	*Allocated to tiers:-*	*Allocated to tiers:-*	*Allocated to tiers:-*	*Allocated to tiers:-*	*Allocated to tiers:-*	*Allocated to tiers:-*
2nd	3rd	4th	5th	6th	7th	Product Statements
3rd	4th	5th	6th	7th		
4th	5th	6th	7th			
5th	6th	7th				
6th	7th					
7th						