



eircom

CCA / LRIC
ACCOUNTING DOCUMENTS

For Year Ended 31 March 2000

Dated 1 December 2000

Accounting Documents

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Introduction

Telecom Eireann plc (*eircom*) is required, under Condition 15 of the General Telecommunications License, dated 1 December 1998 granted by the Office of the Director of Telecommunications (“ODTR”) to *eircom* to maintain accounting records in a form which enables the activities of any business unit specified in any direction given by the Director of Telecommunications Regulation (“the Director”) to be separately identifiable, and which the Director considers to be sufficient to show and explain the transactions of each of these business units.

Directive 97/33/EC of the European Parliament, as enacted into Irish law by Statutory Instrument No. 15 of 1998, establishes the legal and regulatory framework for the interconnection of telecommunication networks within the EU, including a requirement for accounting separation.

The detailed framework and financial statement disclosure for Accounting Separation has been set out in the ODTR Decision Notices D5/99 & D10/99 ‘Accounting Separation and Publication of Financial Information for Telecommunication Operators’, dated May 1999 & August 1999 respectively, and D8/99 ‘Costing methodologies for use in Accounting Separation’, dated July 1999, and D9/00 and D10/00 ‘Accounting Separation and Publication of Financial Information for Telecommunication Operators’, dated August 2000 and September 2000 respectively (“the Decision Notices”).

The framework for the preparation of Long Run Incremental cost statements is set out in ODTR Decision Notice D6/99 “The development of Long Run Incremental Costing for Interconnection” dated June 1999. The disclosure requirements are established under ODTR Decision Notice ‘Accounting Separation and Publication of Financial Information for Telecommunication Operators’ dated August 2000 as subsequently amended through agreement with the ODTR.

Historical Cost Financial Statements have to be prepared for the following Businesses and, where applicable, Activities within the Businesses:-

Business	Activities
Local Access Network	n/a
Core Network	n/a
Retail	Access Local Calls National Calls International Calls Calls to Mobile Directory Enquiry Leased Lines Public Payphones Calls to Internet Internet Services Supply Supplemental Services Remaining Activities
Other Business	Apparatus Supply Eircell Indigo Subsidiary Activities Other Remaining Activities

The full definition of the Businesses and Activities are set out on pages 7 to 9.

The Financial Statements are prepared in accordance with the Accounting Documents which set out the framework under which the statements are to be prepared.

The Accounting Documents are made up of the following:-

1. Regulatory Accounting Principles - which lay out the general rules by which the Financial Statements should be prepared, for example that all balances should be attributed with reference to cost causality.
2. Attribution Methods - which explain how revenue, costs including transfer charges, assets and liabilities are attributed to the Businesses and Network Elements and Activities within those Businesses, following the Regulatory Accounting Principles, on a fully allocated basis.
3. Transfer Charges – which explain how charges are raised from the Core Network and Local Access Network Businesses to the Retail Business for its use of the respective networks.
4. Accounting Policies - which detail the accounting policies adopted in preparing the underlying financial information.

This introduction does not form part of the Accounting Documents.

***eircom* Accounting records**

eircom is a unitary business sharing a common network and support functions. It consists of a number of customer facing divisions and divisions responsible for providing customers with telephony services, maintaining the core switching and transmission networks, and providing and maintaining customer connections to this network. A number of additional services are supplied by subsidiary companies (e.g. Eircell) which maintain separate accounting records.

eircom records its transactions in the accounting records in accordance with Irish legal requirements and generally accepted accounting principles. Within these records detailed data is maintained in respect of the manner in which the transactions have arisen. Assets, liabilities income and costs are recorded by type.

For those cost types that are of a "direct" nature, such as provision and installation, there is also a system for booking time and items such as stores to a range of sub-accounts, known as "appropriation codes". These appropriation codes describe the type of equipment being maintained, installed or more generally supported, in further detail. It is therefore possible, for example, to identify separately the pay costs and related stores costs incurred in the maintenance of exchanges.

For those cost types of a more indirect nature costs are booked to 'non-appropriated codes' on a cost centre basis. These costs are mapped into one of forty-three expenditure headings (refer to section 3.5.1). These expenditure headings are allocated into seven full processes, six support processes and one strategic process.

Basis of Preparation of Financial Statements

The structure of the Businesses required under the Decision Notices (i.e. Local Access Network, Core Network, Retail and Other Business) does not correspond to the way in which the statutory accounting records are structured. The Financial Statements are therefore produced by overlaying the requirements of the Decision Notices on the statutory accounting record structure of *eircom*.

As required by the Decision Notices, wherever possible, revenue, costs, assets and liabilities are directly associated with a Business, Activity or Network element using information recorded within *eircom*'s accounting records and are directly attributed to that item. Where no such direct attribution is possible the revenue, costs, assets and liabilities are apportioned between two or more Activities, Network Elements or Businesses on a basis that reflects the causality of the revenue, cost, asset or liability. Residual costs for which no direct or indirect method of apportionment can be identified are allocated using an equal proportionate mark-up method. Details of this process are given on page 14 in the Attribution Methods section within these Accounting Documents.

Definitions of the Businesses

Local Access Network

The Local Access Network provides connections to the Core Network. The accounts for the Local Access Network Business include the costs and capital employed associated with providing and maintaining these connections. For Accounting Separation, the Local Access Network Business includes all the customer-dedicated components of the network including, for example, the line cards and ports located at concentrators and/or exchanges. The Core Network Business includes all other network components. Customer line rental is a service provided by the Retail Business. The revenue from line rental and connections provided to end users is therefore recorded in the Retail Business. The cost of providing customer lines is recorded against the Local Access Network Business and a transfer charge of costs to the Retail Business is levied in order to match revenues with their associated costs. Costs charged to the Retail Business are based on the fully allocated costs of Local Access Network Elements including a cost of capital, set at 12%.

Core Network

The Core Network Business provides a range of interconnection services internally and externally in order to allow the customer of one operator to communicate with customers of the same or another operator, or to access services provided by another operator. These services include the switching and conveyance of calls. The revenues of the Core Network Business will derive from the sale of interconnection services to the Retail Business of *eircom* and to other operators.

The Core Network also includes payments to other operators, dedicated transmission and capacity for leased lines and the provision of directory enquiry services.

Retail

The Retail business includes all those Activities involving the selling of telephony services to end-users, including line rental, leased lines, calls, payphones and the provision of directory information. The accounts for the Retail Business include the costs, revenues and capital employed associated with the provision of these services to end-users. The costs allocated to the Retail Business include the transfer charges related to the use of network resources or services provided by Local Access Network Business and the Core Network Business, and the marketing and billing costs associated with the provision of end-user services.

The disaggregated activities within the Retail Business are as follows:-

- 1. Access**
The business relating to the supply of customer line connections and rental and its associated costs.
- 2. Local Calls**
Local dialled calls originating from PSTN, ISDN and private payphone telephone exchange lines.
- 3. National Calls**
Dialled calls charged at national tariff rate originating from PSTN, ISDN and private payphone telephone exchange lines.
- 4. International Calls**
Continental, Intercontinental and Northern Ireland calls originating from PSTN, ISDN and private payphone telephone exchange lines. This also includes receipts from overseas telecommunication operators and cashless calling.
- 5. Calls to Mobile**
Dialled calls originating on PSTN, ISDN and private payphone lines that terminate on a mobile (i.e. not fixed) network.
- 6. Directory Enquiry**
Inland calls placed with the *eircom* operator to obtain information about Irish and Overseas telephone numbers, whether made from business or residential telephone exchange lines or from public payphones and includes calls made to the Directory Enquiry database.
- 7. Leased Lines**
Rental, maintenance, connection and change of inland and international leased lines beyond customers' premises and which have access to the PSTN.
- 8. Public Payphones**
Local, national and international dialled calls, originating from public payphones, using cash, phone cards or credit cards.

- 9. Calls to Internet**
Calls to the 1891 internet service originating from ordinary and ISDN telephone exchange lines.
- 10. Internet Services Supply**
The business relating to the supply of internet services.
- 11. Supplemental Services**
The business relating to the supply of certain data and value added services. Examples of these services are data networks, messaging services, mobile messaging communications, fax network services, electronic information services, broadcast and visual services, managed answering services and telemarketing.
- 12. Remaining Activities**
All other telecommunications services that are within the Retail Business. This will include operator assistance, freephone and premium rate services.

Other Business

eircom provides a wide range of other services including the rental, repair and maintenance of customer equipment. For the purposes of Accounting Separation, the costs, revenues and capital employed associated with these activities will be separately identified.

The disaggregated activities within Other Business are as follows:-

- 1. Apparatus Supply**
The business relating to the rental and sale of customer premises equipment in the Republic of Ireland.
- 2. Eircell**
The business relating to the provision of mobile telephony services by Eircell.
- 3. Indigo**
The business relating to the provision of internet services by Indigo.
- 4. Other Subsidiaries**
Activities of *eircom*'s subsidiaries other than Eircell and Indigo.
- 5. Other Remaining Activities**
All other remaining activities such as repayment works and consultancy services.

1. Regulatory Accounting Principles

The following Regulatory Accounting Principles are applied in the production of the Historical Cost Financial Statements, in the application of the Attribution Methods, of the Transfer Charging system, and of the Accounting Policies.

- **Priority:** within the Regulatory Accounting Principles, insofar as there is conflict between the requirements of any or all of these Principles, the Principles are to be applied in the same order of priority in which they appear in this document.
- **Definitions:** Any word or expression used in the Accounting Documents shall, unless the context otherwise requires, have the same meaning as it has in the Licence.
- **Cost Causality:** Revenue (including transfer charges), costs (including transfer charges), assets and liabilities shall be attributed to cost components, services and businesses or disaggregated businesses in accordance with the activities which cause the revenues to be earned or costs to be incurred or the assets to be acquired or liabilities to be incurred.
- **Objectivity:** The attribution shall be objective and not intended to benefit the SMP operator or any other Operator, product, service, component, Business or disaggregated business.
- **Consistency of treatment:** There shall be consistency of treatment from year to year. Where there are material changes to the Regulatory Accounting Principles, the Attribution Methods, or the Accounting Policies that have a material effect on the information reported in the Financial Statements of the Businesses, the parts of the previous year's Financial Statements affected by the changes shall be restated.
- **Transparency:** The Attribution Methods used should be transparent. Costs and revenues, which are allocated to Businesses or activities, shall be separately distinguished from those that are apportioned.

2. *Businesses*

In accordance with the Decision Notices, Financial Statements are produced for the following Businesses and, where applicable, Activities within those Businesses:

Business	Activities
Local Access Network	n/a
Core Network	n/a
Retail	Access Local Calls National Calls International Calls Calls to Mobile Directory Enquiry Leased Lines Public Payphones Calls to Internet Internet Services Supply Supplemental Services Remaining Activities
Other Business	Apparatus Supply Eircell Indigo Subsidiary Activities Other Remaining Activities

3. Attribution Methods

3.1 Introduction

This document describes the Attribution Methodologies used to allocate fully *eircom's* revenue, costs, assets and liabilities to its Businesses and, where applicable, their disaggregated Activities and gives an explanation of the different methods used for attributing revenue, costs and capital employed. Cost types and the processes involved in their allocation or apportionment are described, showing how costs are treated from their initial appearance in *eircom's* accounting records to their ultimate attribution to Businesses, Activities or Network Elements. It explains both the system used to produce the Financial Statements and the methodologies employed in that system.

The purpose of Accounting Separation is to provide an analysis of information derived from financial records to reflect as closely as possible the performance of parts of a business as if they were operating as separate businesses. It is necessary for competing operators to have confidence that *eircom* is not unduly discriminating between its own Retail Activities and competing operators or between one competitor and another when providing similar services.

The aim of Accounting Separation is to assist in ensuring that charges are cost-based, transparent and non-discriminatory. This in turn promotes a competitive environment in a number of ways, including:-

- a) the publication of accounts that are transparent and allows other operators to understand how *eircom's* revenues relate to costs
- b) the Financial Statements data demonstrates that interconnection arrangements are equitable.

The fundamental feature of this approach to attribution is the principle of causality. Each item of income, cost and capital employed recorded in the *eircom* group accounts is attributed to the Activities and Network Elements which make up the separate Businesses defined under Accounting Separation.

Attribution Methodologies will be regularly reviewed and enhancements introduced to reflect, for example, changing technologies while the apportionment bases, which are the practical application of these methods to actual values, will be updated at least annually.

3.2 Businesses

Under Accounting Separation, Financial Statements are produced that show *eircom's* revenue, costs and capital employed attributed between the following Businesses:

Local Access Network Business

The Local Access Network Business provides the Retail Business with links between *eircom's* customers and the core network. The Local Access Network Business receives revenue from the *eircom* Retail Business in the form of a transfer charge equal to its costs plus a return on capital employed equivalent to that charged by the Core Network Business.

Core Network Business

The Core Network Business sells a range of network services to meet the differing needs both of other operators and the Retail Business. The price of each network service is based on the fully allocated historical cost of the Network Elements, including a determined return on capital, used to provide the service.

Retail Business

The Retail Business is made up of a number of activities as follows:

- a) Access
- b) Local Calls
- c) National Calls
- d) International Calls
- e) Calls to Mobile
- f) Directory Enquiry
- g) Leased Lines
- h) Public Payphones
- i) Calls to Internet
- j) Internet Services Supply
- k) Supplemental Services
- l) Remaining Activities

Other Business

The Other Business is made up of a number of activities as follows:

- a) Apparatus Supply
- b) Eircell
- c) Indigo
- d) Other Subsidiaries
- e) Other Remaining Activities

3.3 Attribution Methodologies

3.3.1 Overview

eircom's approach to attribution is to identify income and costs which can be directly attributed to Businesses, Activities or Network Elements. For all remaining balances *eircom* identifies the appropriate driver for each item, and, as far as possible, uses objective operational and/or financial data remaining relevant to that driver to generate apportionment bases.

This approach to the process of attribution of financial information to businesses, activities and network segments can be summarised as follows:

- review each balance,
- establish the cost driver, i.e. the process that caused the cost to be incurred or the revenue to be earned,
- use the driver to allocate or apportion the balance to Retail Activities, the Local Access Network Business or, to the Core Network,
- allocate revenue to Retail Activities, or to the Core Network Business.

The general methods for revenue and cost attribution in Accounting Separation are set out below. The attribution of mean capital employed, which follows the same principles, is also described briefly below.

3.3.2 Revenue

Revenue is recorded in the accounting records in such a manner that it is usually possible to allocate it directly to Retail activities, to Local Access Network Business or to the Core Network Business.

3.3.3 Costs

Costs are drawn from the accounting records. The methodologies applied to the costs, which vary according to the nature of the costs and the way in which they are recorded, are set out below.

3.3.3.1 Direct and directly attributable costs

Certain costs can be allocated to specific Businesses, Activities or Network Elements and, therefore, do not require apportionment. These costs include most of the costs directly related to customer-facing activities, such as maintenance of customer premises equipment. They also include directly appropriated and plant costs which relate solely to individual Elements of the network. Some of these specific costs can be directly allocated to Network Elements, such as International Transmission, or Directory Enquiry.

3.3.3.2 Indirectly attributable costs

Other costs cannot be directly associated with particular Businesses, Activities or Network Elements, and require indirect apportionment. These costs include general costs of *eircom's* business units which service various Businesses, Activities and Network Elements, which are recorded on a cost centre basis using the Activity Based Costing process outlined in section 3.5

below, where a specific apportionment base can be identified and measured.

The above cost type will also include other costs, such as the costs of transmission equipment, which are used to provide a number of network services. These costs are grouped and then apportioned to Network Elements using network statistics, surveys or other methods of analyses (see section 3.7).

3.3.3.3 Unattributable Costs

As stated above *eircom* utilises, wherever possible, objective data relating to cost drivers. There is, however, some expenditure for which no specific apportionment bases can be readily derived. These costs mainly represent central corporate overheads, such as the costs of central accounting functions. These costs are apportioned to Businesses, Activities and Network Elements using the equal proportionate mark-ups method i.e. any individual Business will receive a proportionate allocation of unattributable costs equal to its proportionate allocation of attributable costs.

3.3.4 Mean Capital Employed

Mean capital employed is defined by *eircom* as mean total assets less current liabilities less finance lease liabilities and provisions other than those for deferred taxation, excluding corporate taxes and dividends payable and the short term element of long term liabilities other than those for finance leases. The mean is calculated from the start and end values for the period. The apportionment of capital employed follows a similar approach to that used for operating costs.

Fixed assets are recorded by capital appropriation codes and can be segmented into three categories:

- 1) those assets that can be directly allocated to Businesses, Activities or Network Elements, e.g. satellite earth stations, which are directly attributable to the International Transmission network element;
- 2) assets relating to a group of Businesses, Activities and Network Elements which are apportioned on the basis of cost drivers, e.g. exchange line termination equipment asset classes, which provide both concentrating and switching functions and are thus apportioned both to the Local Access Network Business and various switching Network Elements;
- 3) assets of a general nature supporting, for example, general mainframe computers or motor transport, where an appropriate apportionment base, derived from the attribution of the operating costs of that element, is applied.

For current assets and liabilities, those Elements that can be directly attributed to Businesses, Activities and Network Elements (specific debtors and creditors, stocks and provisions) are directly allocated; for the remainder appropriate apportionment bases are derived for each element. For instance, trade debtors are attributed on the basis of an analysis of the related revenue.

Cash balances are attributed to Businesses, Activities and Network Elements on the basis of an analysis of operating and capital expenditure in the period.

Provisions are either allocated specifically to Businesses, Activities and Network Elements or are apportioned using a base appropriate to the particular provision.

3.3.5 Non-Financial Data

Wherever costs cannot be directly allocated to Activities and appropriation codes, or when appropriation codes do not map exactly to Network Elements, an apportionment is required. Depending on the cost involved the appropriate basis of apportionment may be of a non-financial nature. In these instances the relevant data may be extracted from non-financial data sources, such as operational systems recording core transmission and usage, or may be collected through activity analysis.

By way of example, the apportionment to Activities and appropriation codes of the pay costs that relate to a cost centre identified by the Accounting Separation process may be apportioned on the basis of a survey of the time spent by the staff whose pay is being apportioned. Such surveys will typically involve analyses of the tasks undertaken by staff and the percentage of time spent on those tasks. These tasks will then be linked to activities. These surveys are re-performed annually and in some instances more frequently.

3.3.6 Sampling

A number of the bases used to apportion costs and capital employed to Businesses, Activities and Network Elements are constructed using sample data. Sampling data has been used to allocate certain indirect costs, which have no comprehensive allocation base, to products and services. The use of sample data has been kept to a minimum. Where sample data has been used in an apportionment base, this has been disclosed in this document. For instance the allocation of duct costs is based upon physical examination of a sample of duct routes and Network element route factors are based upon call volume data drawn from a sample, representative period in the financial year.

Where sample data has been used the sample has been constructed so as to meet the following principles;

- it is unbiased/objective;
- the sample size has been assessed to be statistically significant;
- it is representative of the entire population;
- it is not skewed by seasonal or other factors;
- it is based on either generally accepted statistical techniques or other methods designed to deliver an equivalent result; and
- it will be updated annually.

3.3.7 Summary

Revenue, costs and capital employed are attributed, by allocation and apportionment, either directly to Businesses, Activities or Network Elements; or via a series of steps of indirect allocation through analysis of appropriation codes or the Activity Based Costing process; or through the apportionment of unattributable overheads.

eircom's approach to attribution is to identify the appropriate cost drivers for each revenue, cost or capital employed type and, as far as possible, to use objective operational and/or financial data relevant to that cost driver to generate apportionment bases. Sample data has been used where appropriate and samples have been constructed on generally accepted statistical principles.

Apportionment bases will be updated at least annually and methodologies regularly reviewed with enhancements introduced to reflect, for example, changing technologies.

3.4 Revenue

3.4.1 Overview

Turnover, which excludes value added tax and other sales tax, is made up of the value of services provided and equipment sales. Typically turnover can be analysed by activity directly from the accounting records. The turnover arises from calls, line rentals, connection charges, equipment sales and other activities.

3.4.2 Local Access Network Business

The revenue arising from the provision of services to the Retail Business is calculated within the Transfer Charge element of the Accounting Separation system, rather than in *eircom's* main accounting systems, on the basis of the recorded operating costs and return on capital employed of the Local Access Network Business.

3.4.3 Core Network Business

Revenue arises from provision of network services to other operators and to the Retail Business. Receipts from other operators in respect of calls originating in their networks and terminating on, or in transit through, the core network are separately identified in the accounting records and directly allocated to the Business.

The revenue arising from the provision of services to the Retail Business is calculated within the Transfer Charge element of the Accounting Separation system, rather than in *eircom's* main accounting systems, on the basis of recorded volumes of usage.

3.4.4 Retail Business

3.4.4.1 Retail Access

Retail access revenue, which is separately identifiable from the accounting records, is in respect of connection and rental income related to the provision of narrowband lines to retail customers.

3.4.4.2 Calls

Call revenue relates to customers' calls that are accounted for on an accrual basis. *eircom's* billing system facilitates the identification of volumes and durations of all calls by type. This system is used to identify the revenue by call types including local, national, international, calls to internet, directory enquiry and calls to mobile in the accounting records. Therefore this revenue can be allocated directly to the relevant Retail Activities.

3.4.4.3 Public payphones

Public payphone revenue arises from the collection of cash from payphones and the sale of callcards. These can both be identified directly from the accounting records.

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3.4.4.4 Leased Lines

Rental and connection charges for leased lines can be separately identified in the accounting records and the revenue can therefore be directly allocated to the relevant activity.

3.4.4.5 Internet Services Supply, Supplemental Services and Retail Remaining

Rental, connection, calls and other charges for all of the above categories can be separately identified in the accounting records and the revenue can therefore be directly allocated to the relevant activity.

3.4.5 Other Business

3.4.5.1 Apparatus Supply

Apparatus supply revenue relates to the rental, sale, maintenance and connection of telephone apparatus within the Republic of Ireland, each of which are separately identified in the accounting records and directly allocated to this activity.

3.4.5.2 Subsidiary Activities (including Eircell and Indigo)

Each subsidiary maintains its own accounting records. Revenue relating to subsidiary activities can thus be separately identified and directly allocated to this activity.

3.4.5.3 Other Remaining Activities

Remaining Activities revenue relates to the supply of non-telephony activities. Examples of these services are repayment works revenue earned in relation to work undertaken repairing plant damaged by third parties. The revenue can be identified directly from the accounting records and allocated directly to this activity.

3.5 Costs

As noted earlier, non-appropriated costs are apportioned using an Activity Based Costing methodology. This consists of a two stage process comprising apportionment of non-appropriated costs to defined Activity Based Costing activities and a mapping of these activities to Businesses, Activities and Network Elements as defined by Accounting Separation.

3.5.1 Apportionment to Activity Based Costing activities

The non-appropriated cost information is held by cost centre and cost type. The cost types are compiled from general ledger account codes from the accounting records. The cost types are mapped to 43 expenditure headings also known as Summary Resource Types ("SRT"), each SRT being an amalgamation of like cost types which have the same cost driver e.g. the pay costs SRT is made up of basic pay, bonuses, payroll subsistence, employers' PRSI, pension and contract staff costs. The cost driver of these costs is time spent.

The cost centres are amalgamated into approximately 230 Nodes. These Nodes consist of cost centres that are ultimately under the responsibility of one person. It is the responsibility of each Node manager to produce an allocation of the costs within the Node to activities defined in a compiled Activity Dictionary. This is performed by identifying a cost driver for each SRT and apportioning the cost to the defined activities using the defined driver volumes.

The Activity Dictionary consists of approximately 700 Activities which are aggregated into the main processes within *eircom*. The core dictionary defines seven business processes, six support processes, and a strategic process, "Manage the Business".

Each process is broken into a 3 level hierarchy:

- level 1 - the process itself
- level 2 - the sub processes
- level 3 - the activity dimension

The sub-processes assist in defining the activity costs more accurately, as they ensure that all aspects of the activities are combined to result in the complete cost of the particular activity.

Costs are allocated against the activity dimension. The cost of a process or sub-process is identified by aggregating the costs against the activity dimensions of which they are composed.

3.5.1.1 Business processes

Business processes are defined as the collection of activities arising from the development, supply and management of products and services supplied to *eircom*'s customers. The seven business processes are:

1. Product management - activities involved in developing and delivering a fully managed set of products and services to customers.

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2. Marketing & Sales - this involves the sales and marketing of all *eircom* products and group company products.
3. Provisioning - this covers all aspects of the supply of *eircom* products and services to the customer.
4. Billing - this covers all aspects of call measurement, customer billing and cash collection.
5. Repair - this covers the resolution of service difficulties reported by the customer and covers the full range of products of the group.
6. Operator services - this provides operator assisted services to customers.
7. Manage the Network – this covers all activities involved in managing the Core and Access Networks.

3.5.1.2 Support processes

Support processes support the business processes i.e. they provide services across all customer-related activities. The six support processes are:

1. People - this involves all aspects of the HR function.
2. Finance - this process involves all activities within the Finance function.
3. IT Support - this process includes all activities within the IT function, including system design, implementation and support.
4. Corporate Communications - this process involves strategic policy development and branding.
5. Corporate Services - this process involves various activities, including security and risk management, regulatory management, and strategic business planning.
6. Procurement – this process involves acquisition, management and maintenance of physical resources to be used by the company's activities.

3.5.1.3 Manage the Business process

The 'Manage the Business' process involves planning, organising, controlling and leading the company. The process involves the development of corporate strategy, development of the management system, and implementation of corporate strategy.

This is a strategic process and is thus distinct from the business and support processes.

3.5.2 Mapping of Activity Based Costing activities to Businesses / Activities / Network Elements

A further apportionment process is required to produce final allocations as the Activity Based Costing activities do not always directly map to the Businesses, Activities and Network Elements defined under Accounting Separation.

This apportionment can take any of the following forms:

- an activity may be wholly attributable to a Business, Activity or Network element regardless of the node in which the costs reside, e.g. costs within the DQ11818 International activity will be pointed to the International Directory Enquiries network element regardless of the node in which the cost resides;
- some activities may be attributed to different Businesses, Activities or Network Elements depending upon the node in which the cost falls, e.g. accommodation management activity is attributed in different proportions to Businesses, Activities or Network Elements depending on the nature of the node in which the activity has been identified;
- some activities may not be wholly attributable to a single Business, Activity or Network element. In this case an appropriate apportionment base has been created to apportion the costs within the Activity Based Costing activity to Businesses, Activities and Network Elements. For example the activities under the billing process have been apportioned to Activities and Network Elements by identifying the cost driver relevant to each activity.

3.6 Mean Capital Employed

3.6.1 Overview

The definition of mean capital employed for Accounting Separation purposes is contained in section 3.3.4. The apportionment of mean capital employed follows a similarly detailed and careful approach to that for operating costs. For some items, such as trade debtors, turnover is the appropriate driver rather than costs. Where reference is made to processes described elsewhere, full details of these processes are not repeated here.

For example, reference may be made to apportionment on the basis of "total pay". This is used wherever pay is the causal driver, e.g. for payroll creditors. Thus, the attribution of payroll creditors will follow the same procedure as the corresponding pay costs. The record of pay costs attributed to Businesses, Activities and Network Elements in the cost attribution process is used to attribute related creditors in such a way as to reflect fully the complexities of the analysis of those pay costs.

3.6.2 Tangible fixed assets

Some network equipment assets can be allocated directly to Businesses or Network Elements on the basis of the asset class recorded in the general ledger, or apportioned to Businesses or Network Elements on the basis of network studies. These include the following categories of plant:

- Local Access lines cable
- Exchange equipment
- Transmission cable
- Duct.

Motor vehicles, computers, land and buildings are apportioned across Businesses, Activities and Network Elements using bases which replicate the total apportionment to services of the costs of the operations supported by the assets concerned. The fixed assets of specialist operating units are directly allocated to the appropriate Business, Network element or Activity by virtue of the operations undertaken by those specialist units. Where direct allocation is not possible each unit will apportion the relevant assets between activities using an appropriate cost driver specifically selected to reflect the operations concerned.

3.6.3 Stocks

The bulk of stocks relates to Apparatus Supply and can be directly allocated to that activity with the majority of the remainder being directly allocated to the Local Access Network Business.

3.6.4 Debtors

Debtors are analysed by type and sub-analysed where appropriate (e.g. by billing system) from information in the accounting records. At this stage, the appropriate apportionment bases (e.g., relevant turnover) are then applied. Debtors includes the following categories:

- Trade debtors are directly allocated to Businesses, Activities and Network Elements on the basis of relevant turnover.

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- Transfer charge debtors. The Retail Business is accorded the average settlement terms enjoyed by *eircom*'s interconnect customers.
- Accrued income is directly allocated to Businesses, Activities and Network Elements on the basis of relevant turnover.
- Other debtors and prepayments are apportioned to Businesses, Activities and Network Elements using bases appropriate to the particular debtor type.

3.6.5 Cash at bank and in hand

Cash balances are apportioned on the basis of operating and capital expenditure in the period.

3.6.6 Loans and other borrowings falling due within one year

This category includes bank overdrafts and short term loans, which are apportioned on the basis of operating and capital expenditure in the period.

3.6.7 Other creditors

Creditors are analysed by type from the general ledger codes and the appropriate apportionment bases then applied in the following categories:

- Trade creditors are apportioned to Businesses, Activities and Network Elements on the basis of operating expenditure excluding pay and international outpayments.
- Capital creditors are apportioned to Businesses, Activities and Network Elements on the basis of capital expenditure in the period.
- Payroll creditors are apportioned to Businesses, Activities and Network Elements on the same basis as total pay.
- VAT balances are segmented into specific balances and a residual general balance. The specific balances are allocated to the activity to which they relate. The residual balance is further segmented into VAT output tax payable and VAT input tax receivable balances. VAT payable is apportioned to Businesses, Activities and Network Elements on the basis of external turnover. VAT receivable is apportioned on the basis of total external costs (excluding pay).
- Amounts due from the Retail Business to the Network Business are attributed to the relevant Activities on the basis of the volumes and other information used to calculate the transfer charges.
- Other creditors are apportioned to Businesses, Activities and Network Elements using bases appropriate to the particular creditor type.

3.6.8 Provisions

Provisions are either allocated directly to Businesses, Network Elements or Activities or are apportioned using a base appropriate to the particular charge.

3.7 Apportionment of appropriated Network costs

3.7.1 Overview

The process to apportion appropriated network costs to Network Elements where they relate to the Core Network Business and to the Local Access Network Business is based upon a series of network studies, which make use of relevant engineering data, operational systems and/or sample data.

Taken together, Network Elements make up all the costs and capital employed of the separated Core Network Business.

3.7.2 Exchange equipment

The main cost drivers for exchange equipment are connections, call attempts and call durations. Exchange equipment costs are allocated to the appropriate drivers on the basis of an in-depth engineering study undertaken, together with the equipment suppliers, to analyse the functionality of this equipment.

The apportionment approach identifies the allocation of total exchange costs between the Local Access Network Business and Core Network Business. The specific equipment affected by this study is exchange line terminations, trunk terminations, core hardware, operating software and application software.

Exchange expenditure is assigned to the main cost drivers, as follows:

- Connections – costs that are associated with equipment that has the function of providing access to the network;
- Calls – costs that are associated with equipment that has two functions; that of establishing an end to end network path (call set-up) and the function of holding the network path open for the duration that a link is made across the network (call duration).

3.7.3 Transmission

The 'transmission network' provides the following paths;

- links between leased line customer connections and Remote Subscriber Units (RSUs);
- links between RSUs and exchanges (primary, secondary and tertiary);
- links between exchanges.

These paths are recorded in the Fixed Asset Register as cable and associated equipment. The network is used both to carry calls on paths dedicated to the PSTN, and to route activities, such as leased lines, that require dedicated paths.

The process for apportioning transmission equipment costs takes into account, and costs individually, each of the main building blocks (cable, line equipment and multiplexors), by the various technology types of the equipment, to reflect the different cost drivers of the specific transmission requirements of particular activities. The main cost drivers are weighted cable length and the type of transmission path, with a weighting factor applied to reflect the transmission capacity.

Costs are segregated into those driven by the number of paths (e.g. multiplexing equipment) and those driven by the total weighted length of the paths (e.g. cable) on the basis of the equipment type.

3.7.4 Duct

The duct network provides physical underground paths as listed in section 3.7.3 above. These path types are recorded in the Fixed Asset Register as underground plant. The network is used both to carry paths dedicated to the PSTN, and to route activities, such as leased lines, that require dedicated paths. The primary cost driver for duct is the total duct kilometres.

The process for apportioning the costs of duct between the Local Access Network Business and the Core Network Business is based upon a three stage engineering study. The first stage stratifies total duct kilometres into three categories; Access only, Core only and shared duct. The second stage attributes the shared duct between Access and Core on an equal basis. The final stage apportions core duct to Network Elements on the basis of cable length.

The duct apportionment is based on a physical examination of a representative sample of duct routes.

3.7.5 Overhead plant

The overhead network provides physical overhead paths as listed in section 3.7.3 above. These path types are recorded in the Fixed Asset Register as overhead poles and equipment. The network is used both to carry paths dedicated to the PSTN, and to route activities, such as leased lines, that require dedicated paths. The primary cost driver for overhead plant is cable kilometres.

The process for apportioning the costs of overhead plant between the Local Access Network Business and the Core Network Business is based upon a three stage engineering study. The first stage stratifies total overhead kilometres into three categories; Access only, Core only and shared. The second stage attributes the shared element between Access and Core on an equal basis. The final stage apportions Core overhead plant to Network Elements on the basis of cable length.

The apportionment of overhead plant is based on a sample of overhead plant records taken from a representative sample of exchange areas.

3.7.6 Other appropriated costs

The fully allocated costs of most other appropriated network costs can be directly linked to Network Elements, with no further analysis.

In cases where apportionment of appropriated costs is required, appropriate bases are derived by reviewing the causal links of the appropriated costs. For example the apportionment of maintenance activities to network Elements is based upon an analysis of time spent for a representative sample period.

3.8 Network transfer charges

3.8.1 Overview

The transfer charges of Network Elements from the Core Network Business to Retail Activities and charges to other operators are based on the unit costs of Network Elements including the applicable rate of return and the volume of segments used by the Retail Business and other operators respectively.

3.8.2 Creation of the Network Business account

The Network Business account is made up of interconnect revenues from other operators and the transfer charge income from the Retail Business and the cost and capital employed of all Network Elements.

3.8.3 Creation of the Retail Business account

The Retail Activities have now been attributed with all their income, costs and capital employed including transfer charges for their use of the Core Network and Local Access Network.

3.9 Regulatory decisions

eircom is required to ensure that the Accounting Documents (including this Attribution Methods document) are consistent with, and give effect to, a range of actions including directions, consents and determinations made by the ODTR. *eircom* were directed by the ODTR to restate the financial statements for the year ended 31 March 2000, as published on 30 September 2000, in respect of the following:

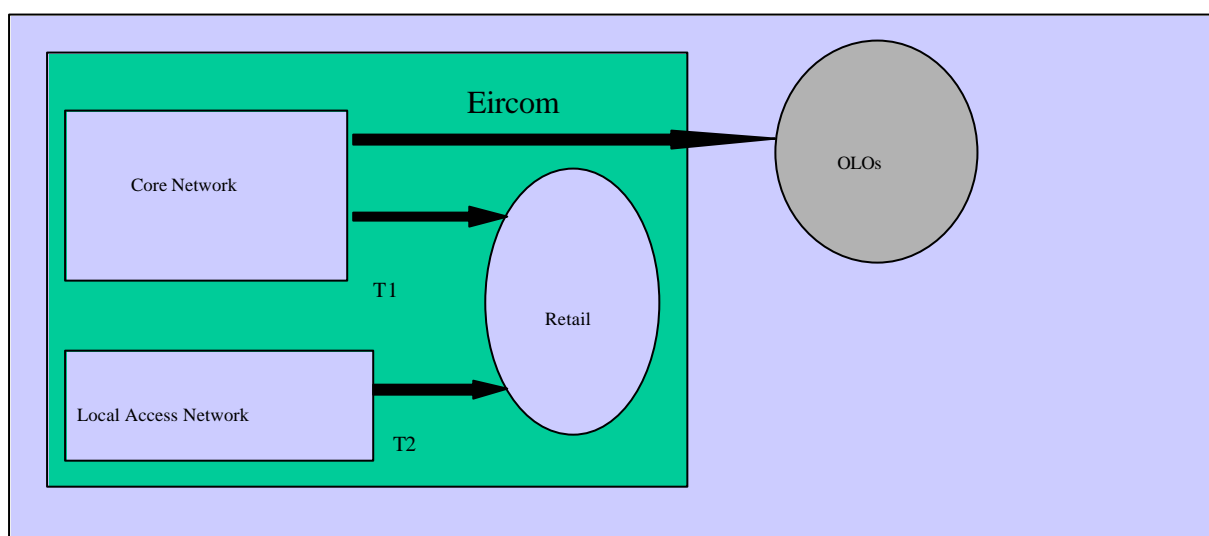
- (i) requirement to attribute all line card costs to the Local Access Network.
- (ii) requirement to charge the call set-up component of conveyance charges on a per-minute basis.

The regulatory Financial Statements have to be produced in accordance with the Accounting Documents, as revised to meet these Regulatory Decisions.

4. Transfer charges

4.1 Background and overview

Under Accounting Separation *eircom* prepares separate Financial Statements for its businesses: Core Network; Local Access Network; Retail; and Other Business as disaggregated. *eircom* is required to prepare Financial Statements on an historical cost basis using Transfer Charges calculated in accordance with the principles outlined below.



4.2 Network charges

The Core Network Business sells a range of network services to meet the differing needs of other operators and the Retail Business respectively. The price of each service is based on the fully allocated cost of the Network Elements or parts thereof, including a return on capital, used to provide the service.

A Network Element is a unit of network plant or activity which can be separately costed but, in most cases, cannot be separately supplied, e.g. a primary to secondary link. All services sold by the Core Network Business, either to other operators or the Retail Business, are built up from combinations of one or more Network Elements.

4.3 Transfer charges from the Network Business

4.3.1 Principle

Transfer charges, and charges to other operators, are based on the product of unit costs and usage. *eircom* produces Financial Statements containing transfer charges based upon the calculated unit costs and usage for the year in question.

4.3.2 Volumes and usage data requirements

The system used to calculate the transfer charges and produce the Financial Statements contains non-financial data, including detailed analyses of service volumes and network usage data. The table below summarises the main classes of information.

Call conveyance and Network element usage

- Call traffic by product/service (in minutes)
- Route factors by Network element by product/service
- Network element usage (in minutes)

Ancillary services

- Various volume and usage information by product/service

4.3.3 Calculation of the Network Business transfer charges to the Retail Business

Calculated Network element charges form the basis of both Network Businesses transfer charges to the Retail Business and charges to other operators. *eircom* Retail's route factors and volumes are applied to the calculated Network Element charges to derive its transfer charge. The route factors are calculated using a six-week sample of call data for all products and services.

Transfer charges are calculated in three stages:

- aggregation of unit Network element charges into unit network service charges;
- application of time of day gradient to network service charges; and
- multiplication of unit network service charges and network service volumes.

The following is an example of the processes for conveyance charging.

Stage 1 Unit network service charge

	Network element 1	Network element 2	Network element n	Service specific	Overall cost
Unit cost	1	2	1		
Route factor	2	2	2		
Service charge	2	4	2	1	9

Stage 2 Time of day specific unit network service charge

Time of day specific unit network service charges are calculated by applying a time of day gradient to the average 24 hour network service charge calculated in stage 1 above. This stage is only appropriate to conveyance services.

The time of day gradients for ‘day’, ‘evening’ and ‘weekend’ charge periods are based on the retail tariffs as outlined in Decision 8.8.2 of Decision Notice D7/00.

Stage 3 Overall time of day specific unit network service charges

Overall service charges are calculated by applying time of day unit network service charges to service charge volumes by time of day.

The above example is specific to a conveyance service. The calculation for non-conveyance services operates in a similar manner.

4.4 Transfer charges from the Local Access Network Business

The Local Access Network Business levies a transfer charge to the Retail Access activity and Retail Leased Lines activity equal to the operating cost of the business, and including a return on capital employed.

4.5 Public Payphones

The network conveyance charges relating to calls made from payphones and access charges related to lines are initially charged to the Retail activity related to the type of call being made, e.g. Local, National etc. A further transfer charge is then levied from the relevant retail activity to the Public Payphone activity based upon a retail rate equivalent to that charged to other payphone operators.

4.6 Other intra-eircom transfer charges

eircom's Businesses sell services to each other. The basis on which charges are made from the Core Network Business and the Local Access Network Business to the Retail Business is set out above.

For all other inter-Business sales, the transfer charges are, as required by ODTR's Decision Notices to ensure no preferential treatment is given to Businesses within *eircom*, set at a rate equivalent to the charge that would be levied if the product/service were sold externally rather than internally.

The costs of a Business will not ordinarily arise wholly within one operating division of *eircom*. For internal management purposes transfers of cost may take place. These costs are attributed to Businesses using the methodologies described in the Attribution Methods section of the Accounting Documents and do not constitute Transfer Charges as referred to in this section of the Accounting Documents.

4.7 Reporting of transfer charges

The Financial Statements record transfer charges as specified above as:

- revenue in the Core Network Business from *eircom* Retail Activities;
- revenue in the Local Access Network Business from Retail Activities; and
- Payphone Access Charge
- operating costs in the Retail Activities.

At the time the Financial Statements are produced, the system produces detailed reports and analyses of all Transfer Charges between the separated Businesses, together with volumes purchased and totals due.

The Retail Business purchases from the Core Network Business and the Local Access Network Business are analysed in the general form described within the proforma Financial Statements as set out in the Decision Notices.

The Financial Statements for the Core Network Business uses the average interconnect customer settlement period to calculate the Debtors balance due from the Retail Business. The Financial Statements also reflect these same settlement terms applied to transfers between the Core Network Business and the Retail Activities.

5. Accounting Policies

5.1 Basis of Accounting

The Financial Statements are prepared in accordance with the Accounting Documents in the order of priority:

- The Regulatory Accounting Principles
- The Attribution Methods
- The Transfer Charges
- The Accounting Policies

The Financial Statements are required to give primacy to Regulatory Decisions

The Financial Statements are prepared in accordance with the historical cost convention modified by the valuation of land and buildings, excepting those held on a short leasehold basis. The Euro was introduced on 1 January 1999. The countries participating in the European Single Currency are: Austria, Belgium, Finland, France, Germany, Italy, Luxembourg, Netherlands, Portugal, Spain and Ireland. The financial statements are presented in Euros. Euro currency amounts denoted by the symbol '€' are included in the financial statements at the fixed translation rate of €=IR£0.787564.

5.2 Revenue Recognition

Turnover comprises the value of all services provided and equipment sold to third parties, exclusive of value added tax. Turnover is recognised in the period earned by rendering of services or delivery of products.

Billings for telephone services are made on a monthly or bi-monthly basis. Unbilled revenues from the billing cycle date to the end of each month are recognised as revenue during the month the service is provided.

Mobile communications services revenue comprises access charges and usage charges for calls originating from Eircell's network.

Turnover for Businesses and disaggregated Activities includes inter Business turnover, as appropriate.

5.3 Research & Development

Expenditure on research and development is written off as incurred.

5.4 Goodwill

Goodwill represents the excess of the consideration paid for the acquisition of shares in subsidiaries and associated undertakings over the fair value of their separable net assets. The useful lives of goodwill related to acquired businesses have been determined by reference to the periods over which the values of the underlying businesses are expected to exceed the values of their identifiable net assets and do not exceed five years. This represented a change in accounting policy implemented in the prior year. In previous years, goodwill was eliminated against reserves.

Negative goodwill is written back to the consolidated profit and loss account over the estimated life of the underlying assets.

5.5 Foreign Currencies

Transactions designated in foreign currencies are translated into euro (Irish pounds before 1 January 1999) at the rate of exchange ruling at the transaction date. Assets and liabilities denominated in foreign currencies are translated at the rates ruling at the balance sheet date, or rates of exchange contracted for under various currency management instruments, with the resulting gain or loss being dealt with through the profit and loss account.

The financial statements of foreign subsidiaries are translated at year-end rates for the balance sheet and weighted average rates for the profit and loss account. Translation gains and losses arising are reported as a movement on reserves.

5.6 Financial Instruments

The Group enters into transactions in the normal course of business using a variety of financial instruments in order to hedge against exposures to fluctuating exchange and interest rates. Firmly committed transactions and the related receivable, and payable, may be hedged with forward exchange contracts.

Currency swap agreements and forward exchange contracts are used to cover the Group's foreign currency debt position. These are valued at year-end exchange rates and the resulting gains and losses are offset against gains and losses on the translation of the related debt. The interest element of the contracts is reflected in interest expense and similar charges.

Interest rate swap agreements are used to reduce the effect of interest rate fluctuations. Interest differentials, arising from these agreements, are accrued and reflected in interest expense and similar charges. Gains or losses arising from interest rate swaps which are terminated upon the repayment of the related debt are reflected in interest expense and similar charges. Interest rate

swaps have only been terminated upon the early repayment of the related hedged debt. Any such gains and losses arising are reflected in interest expense and similar charges.

5.7 Financial Assets

Financial assets represent the Group's investments in certain debt securities. Investments in debt securities generally comprise investments in bonds or similar debt securities held by the Group until maturity. The Group recognises interest and premium on the bonds over the term of the bond.

5.8 Tangible Assets

Tangible assets are stated at historical cost, existing use basis or valuation less accumulated depreciation. Cost in the case of network plant comprises expenditure up to and including the last distribution point before customers' premises and includes contractors' charges, materials, direct labour, and related overheads incurred in the construction of tangible assets. Land and buildings, excepting those held on a short leasehold basis, are stated at a valuation, the basis of which is depreciated replacement cost or open market value as appropriate. Depreciated replacement cost is the gross replacement cost of fixed assets less depreciation based on that cost and on the age of the assets.

Depreciation is provided on tangible assets (excluding land) on a straight line basis so as to write off their historical cost or valuation over their estimated economic lives. The estimated economic lives assigned to tangible assets are as follows:

Asset Class	Estimated Economic Life
Buildings	40
Network Services	
Transmission Equipment	
Duct	20
Overhead Cable/Poles	7-8
Underground Cable	12-14
Exchanges	
Exchange line Terminations	6
Core Hardware	3
Others	3-7

The Group's policy is to review asset values annually and to adjust depreciation schedules to match estimated asset lives.

This year's review did not result in the adjustment of any asset lives, or related depreciation schedules.

Fully depreciated assets are retained in tangible fixed assets and depreciation accounts until they are removed from service. In the case of disposals, assets and related depreciation are removed from the accounts and the net amount, less proceeds from disposal, is charged or credited to the consolidated profit and loss account.

5.9 Grants

Non-repayable grants are accounted for as deferred income, which is amortised to the profit and loss account at the same rate as the related assets are depreciated.

5.10 Leased Assets

The capital cost of assets acquired under finance leases is included in tangible assets and written off over the shorter of the lease term or the estimated useful life of the asset. The outstanding capital element of the lease obligations is included in loans and other debt, while the interest is charged to the profit and loss account over the primary lease period.

Operating lease rentals are charged to the profit and loss account as incurred.

5.11 Stocks

Stocks comprise consumable items, stores which may be used in the construction or maintenance of plant and goods held for resale. Stocks are stated at the lower of cost and net realisable value. Cost includes invoice price, import duties and transportation costs. Where necessary provisions are made for damaged, deteriorated, obsolete and unusable items.

5.12 Pension Costs

The pension entitlements of employees arising from their service with the Group, are secured by contributions from the Group and the employees to separately administered superannuation schemes. The contributions are based on the advice of a professionally qualified actuary and are included as staff costs in the profit and loss account.

Pension costs in respect of the Group's defined benefit schemes are charged in the profit and loss account on a basis which spreads the cost of pensions over the service lives of employees in the schemes.

Actuarial valuations are carried out triennially. Additional contributions are made to superannuation schemes in respect of employees who take early retirement. These contributions are based on the advice of a professionally qualified actuary.

5.13 Provisions

A provision is defined as a liability of uncertain timing or amount. Provisions are recognised when the Group has a legal or constructive obligation as a result of past events and a reliable estimate of that obligation can be made.

6. Current Cost Valuation Methodology

6.1 Basis of Preparation of the Current Cost Financial Statements

The current cost statements for the group 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 in the UK. The current cost statements for the Core Network are consistent with this approach. Under this convention provision is made for the effects of specific and general price changes on the value of shareholders’ funds. In the current cost balance sheet the group’s assets relevant to the provision of basic Inland Conveyance Services are stated at their value to the business, usually equivalent to their net current replacement cost. Current cost profit is arrived at by adjusting the historical cost profit to take account of changes in asset values. Changes in asset values due to changing price levels are referred to as unrealised holding gains or losses. These include other movements, which are taken directly to reserves in the historical cost statements.

6.2 General principles of asset valuation

The current cost of an asset is strictly defined as the lower of the asset’s net current replacement cost and its recoverable amount. The recoverable amount is the higher of the asset’s net realisable value and its recoverable amount from its future use (its economic value).

In practice, assets in a current cost balance sheet will normally be stated at their Net Current Replacement Cost (NRC). This is normally derived from the asset’s Gross Replacement Cost (GRC) which would be the current purchase price of an identical new asset or the cost of a Modern Equivalent Asset (MEA) with the same service potential.

The effect of the asset revaluation on the profit and loss account is to increase the historical cost profit by any unrealised holding gains (UHG) arising in the year and to decrease it by unrealised losses. In the Financial Statements, UHGs for the various categories of fixed asset are treated in the same way as depreciation, so that losses increase costs and gains reduce them. CCA adjustments to the profit & loss and balance sheet values are allocated to Businesses using the same principles and processes as the historical cost values for the assets to which they relate.

6.3 Valuation methods

There are several different methods of valuation on a current cost basis, each of which will be appropriate in certain circumstances.

6.3.1 Historic Costs

The historic cost of an asset is used as a proxy for the current cost of an asset where it is unlikely that the use of that historic cost would give a materially different value to that using current costs. This is the case where the asset is either of low value or where the asset life is relatively short. The historic cost is also used for additions during the year, as again there is likely to be no material difference to using the current cost at the valuation date.

6.3.2 Indexation

This method is used for assets where there has been very little technological change and all direct costs that have been incurred and capitalised to date would have to be incurred if the asset were replaced today. The index used is, where possible, an asset specific index. If a suitable specific index cannot be obtained a more general index is used as a proxy. Appropriate indices have been obtained from a number of different sources, e.g. indices compiled by the Government Statistical Services or generally recognised privately compiled indices. *eircom* also produce indices based on its own purchasing experience.

6.3.3 Absolute Valuation

This method of valuation involves using physical quantities of assets and their current unit prices. This methodology is principally used where there has been technological change. In this case, the replacement cost is based on the cost of an MEA with similar service potential.

In determining the MEA, *eircom* have followed best practice, which suggests that one should look at the mix of technologies that are likely to be in place in three years time. The MEA should reflect this mix of technologies. The MEA must be based on current proven technology, not future possible developments. Normally, emerging new replacement technologies would be treated as a separate class of assets.

In considering the use of new technology as the MEA, it is assumed that there are no changes to *eircom's* network topology, i.e. the number of nodes and the links between them are valued in their existing configuration, not as a theoretical optimised network.

Where the replacement asset has a greater level of functionality or capacity to the existing asset then the valuation has been reduced to reflect the cost that would have to be expended to acquire a modern asset with the functionality / capacity of the existing assets.

This valuation method is also used when valuing assets that have not had technological change but for which it has not been possible to produce an appropriate index.

6.3.4 Operating Cost Adjustments

If there are material differences in operating costs between the modern equivalent asset (MEA) and the existing asset, the MEA valuation of the existing asset is adjusted to reflect these. The differences may arise, for example, due to differing maintenance costs over the whole lives of the assets.

At present for assets valued using an MEA approach there are no cases where the differences have been identified as material and hence no adjustments are made.

6.3.5 Surplus Capacity

An asset is considered to have a surplus capacity only if there is a capacity within the asset that is not in use and not expected to be put into the use over *eircom's* planning horizon. Thus assets which have capacity planned to be brought into use or which is needed to meet known planning margins are considered to be part of the operating capacity.

Where there is modularity in the provisioning of capacity, provided that a part of the modular asset is utilised or will be utilised over the planning horizon, these assets are included within the operating capacity in the entirety.

eircom has not identified any assets that fall within the above definition of surplus capacity with the exception of network land and buildings. Network buildings, such as exchange buildings, have surplus capacity resulting from the accommodation dimensioned to fit analogue and mechanical exchanges. Vacant areas have arisen where space is no longer required due to the introduction of modern digital equipment or where existing old assets are valued on MEA basis and their accommodation requirements are therefore based on the smaller footprint of the modern assets.

6.3.6 Unit Costs

Unit costs applied to capacity for absolute valuations are based on outturn prices where these are considered representative of the costs that would be relevant if the assets were being replaced at a normal rate in the normal course of business. It is possible that the prices currently being paid are unrepresentative, for example when ordering levels are particularly high or low, or at the end of a technology's life. In such cases, an estimate is made of an appropriate current cost with reference to internal and external data.

6.4 Depreciation

The current cost depreciation charge is calculated in the same way as the historical costs depreciation charge except that the current cost rather than the historical cost will be written off over the useful life. The same depreciation methods and asset lives are used as have been used in the historical cost accounts.

6.5 Asset Category valuations

The fixed assets of *eircom* can be split into a number of asset categories. It is appropriate to consider each of these asset categories separately in determining what the most suitable of the three current cost methodologies might be.

Currently, current cost valuations are only required for Core network assets used for basic inland conveyance services and those assets that straddle these services and other activities.

The key asset categories are described in turn below.

6.5.1 Duct

Duct construction prices are driven by the surface the duct is to be laid under. It is quite likely that the type of surface may have changed since it was initially put into the ground. This means that an indexed historic valuation method is inappropriate because the change in surface mix will not be incorporated into the calculation. Duct has therefore been valued on an absolute basis, i.e. replacement costs for the appropriate surface type multiplied by physical quantities.

The physical information for the duct length, the type of duct, and the number of bores and other relevant street furniture was obtained from a physical duct survey.

The current cost values for disposals have been calculated by indexation of the historical values in the fixed asset register, adjusted by the ratio of the absolute value to the indexed value.

6.5.2 Property

Property can be split into network and non-network land and buildings.

Network land and buildings

Network buildings are those properties such as exchange buildings that are rarely sold except as part of a sale of a business in which they could be used. The depreciated replacement cost is based on unit construction costs that reflect regional and building size cost variations applied to the relevant floor area. The land on which the buildings stand is valued in the same way as non-network buildings.

Surplus space, within buildings in operational use, which is not required due to the introduction of modern digital equipment, is valued at a net realisable value of nil.

Surplus buildings, where complete network buildings are surplus to requirements, are valued on an open market value basis.

Non-network land and buildings

Most other buildings such as offices, warehouses etc. are generally bought and sold together with the land associated with them. The usual method of valuing such a property is on an open market basis.

A valuation of properties owned by *eircom*, excepting those held on a short leasehold basis, was carried out by external professional valuers, as at 31 March 1999. This valuation of those assets was either on a depreciated replacement cost basis or on open market value depending on whether the building was network in nature or not.

The calculation of property as at 31 March 2000 was calculated through the application of appropriate indices to the valuation as at 31 March 1999.

Accommodation plant, which is associated with the network buildings, has been based on the modern equivalent equipment requirements for cooling and ventilation.

Disposals for the year will consist of pre year-end sales.

6.5.3 Transmission equipment

Three principal asset categories have been valued

PDH equipment

The valuation used is an absolute methodology using prices based on the latest 'normal course of business' contracts. Where routes are scheduled for replacement within the three year planning horizon, they are valued on the basis of the replacement technology i.e. SDH.

SDH equipment

These assets are valued on an absolute basis using prices based on the latest 'normal course of business' contracts.

Radio equipment

These assets are valued on an absolute basis using prices based on the latest 'normal course of business' contracts.

6.5.4 Transmission cable

Three principal asset categories have been valued:

Fibre

These assets are valued on an absolute basis using prices based on the latest 'normal course of business' contracts.

Co-axial cable

These assets have been valued on an absolute basis using fibre as an appropriate MEA.

Copper cable

These assets have been valued on an indexed historic basis using asset specific cost trends.

6.5.5 Exchanges

This asset category covers all subscriber units and primary, secondary and tertiary exchanges. The absolute valuation methodology would be appropriate for this asset category given the nature of the changing technology in this area. The valuation is based on the mix of installed capacities for each exchange technology using the MEA principles. Where necessary the valuation takes into account any extra functionality or capacity that might be present in the MEA compared with the actual exchange being values.

The valuation is therefore based upon applying the latest 'normal course of business' contract prices to the installed quantities of assets at a detailed level. Where appropriate, costs for *eircom* direct labour, spares, contract supervision and databuild are added.

6.5.6 Transport

Motor vehicles are split into the following four types of vehicle:

- Vans – Large, medium and small
- Trucks – ordinary and special
- Cars
- Mechanical aids

The replacement cost of the vehicle fleet has been calculated by obtaining a current average unit cost for each type of vehicle based on the number and value of vehicles purchased during the year.

The unit cost of commercial vehicles is where relevant determined from the modern equivalent vehicle falling into a particular category.

6.5.7 Computers

There are two main areas within this asset category. These are the mainframes and personal computers. These categories are valued on an indexed historic basis using separate relevant indices.

6.5.8 Network Power plant

The valuation is an absolute MEA based on network power consumption requirements.

7. LRIC Methodology

7.1 Regulatory background

The ODTR has signalled its intention to use Long Run Incremental Costs (LRIC) as the basis for calculating interconnection tariffs and issued a consultation paper on this subject in March 1999. A Decision Notice D6/99 named “The development of Long Run Incremental Costing for Interconnection” followed in June, setting out the decisions made by the ODTR Director relating to the implementation of LRIC-based interconnection charges.

The ODTR’s stated objectives for LRIC-based interconnection charges were:

- to encourage efficient competition;
- to send appropriate signals that promote forward-looking investment decisions;
- to enable cost recovery by the incumbent;
- to facilitate effective means of interconnection;
- to be sufficiently transparent; and
- to be non-discriminatory and non-preferential.

The Decision Notice specified the following key decisions designed to achieve these objectives.

initial focus to be on a set of basic inland conveyance services for PSTN and ISDN, namely call origination, call termination and domestic transit;

LRIC charges to be determined using both top-down and bottom-up approaches, and the results of each approach to be reviewed before setting the interconnection rates;

LRIC charges to allow recovery of all justified service-specific fixed costs and a proportion of efficiently –incurred shared and common costs; and

In order to facilitate the implementation of these requirements *eircom* has developed a top-down methodology for estimating the incremental costs of its network services predicated on real costs incurred by *eircom*.

7.2 Long run incremental cost – concepts and definitions

LRIC is the additional cost incurred in adding a defined increment of output in the long run.

What is long run?

The period over which all factors of production, including capital, are variable.

What is incremental cost?

Incremental cost is the cost caused by the provision of a defined increment of output given that some level of output (which may be zero) is already produced. When we are concerned with the long run, this definition can be reversed so that incremental costs can be defined as those costs that are avoided by not producing that increment of output.

What is an increment?

An increment is the quantity of output for which the incremental cost is being measured. An increment may be defined in terms of a product, product portfolio, intermediate products or activities, or any combination or sub-division thereof.

The concept illustrated

Figure 1 illustrates the concept of incremental costs. The curve describes the cost function or cost volume relationship (CVR) for a given item of cost (on the vertical axis) and the volume of activity which cause the cost to be incurred or cost driver (on the horizontal axis).

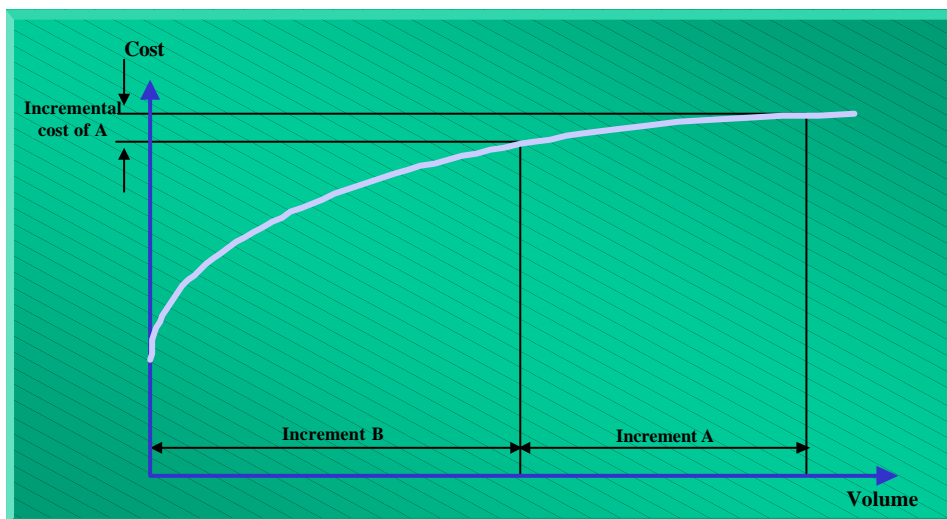


Figure 1: Incremental costs

There are two increments that account for the total volume of the cost driver. The Incremental cost of A is shown given that Increment B is already produced.

In this example, all of the fixed cost, represented by the intercept of the cost function with the vertical axis is common to both increments A and B. In certain instances there may be fixed costs, which are uniquely associated with the production of one increment and are not shared with any

other increment. Such costs, called increment specific fixed costs are part of the incremental costs of the particular increment. Average incremental costs will be less than average costs when:

- there are fixed and common costs present; and or
- there are joint costs of production; and or
- marginal costs are falling.

Where some or all of these conditions are present economies of scope are said to be present. i.e. it is more cost effective to produce two or more outputs together rather than separately.

Forward looking costs

LRIC is essentially a forward-looking concept. That is, it seeks to emphasise the relevant costs that would be incurred in the provision of an additional increment of output. This implies that costs should be measured in current terms and should not reflect out of date historical valuations.

Modelling incremental costs

It is possible to employ bottom-up or top-down modelling approaches to estimate incremental costs. A “bottom up” approach requires assumptions on how an efficient operator would be structured and what type of costs this would lead to. A “top down” basis takes actual costs and applies a LRIC methodology to determine which of the actual costs are incremental and which are not.

7.3 Methodology to calculate incremental costs

7.3.1 A top-down approach

A top-down approach has been used to calculate LRIC. Costs to be used in the calculation of LRIC are taken from *eircom*'s accounting systems adjusted for current cost revaluations, which are reconciled to the audited statutory and regulatory accounts. The adoption of a top-down approach means that direct comparison of the incremental and fully allocated costs is possible

7.3.2 Relationship to fully allocated cost regulatory statements

The LRIC methodology draws on the detailed analysis of cost causality and cost drivers undertaken in the preparation of the *eircom*'s fully allocated costs regulatory statements. This analysis is used to determine cost driver volumes associated with each increment.

7.3.3 Definition of increments

eircom Group is divided into three increments:

Access Network;

Core Network; and

The Rest.

Access Network

For the purpose of the methodology, the definition of Access network is identical to the definition of the local Access Network set out on page 7.

Inland Core Conveyance Network

The Core Network is defined as the PSTN and ISDN switched network comprising all conveyance circuit switches (primary, secondary and tertiary) and remote or co-located subscriber units. It includes all transmission routes connecting these switch nodes including capacity provided for leased lines and other data services. The Inland Core Conveyance Network also includes the specific costs of carrier services.

The boundary between the Inland Core Conveyance Network and Access Network has been defined, by the ODTR, as lying at the Inland Core Conveyance Network side of the line card in the remote or co-located subscriber units.

Figure 2 describes, in diagrammatic form, the division of Inland Core Conveyance and Access Networks.

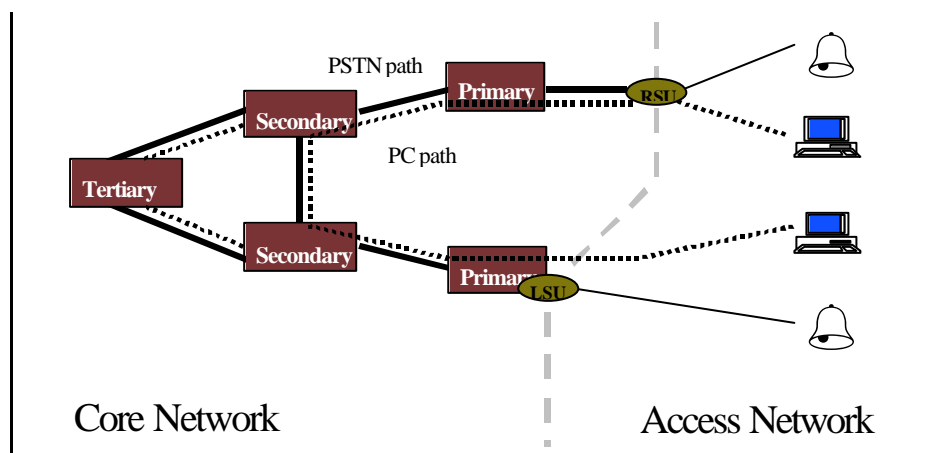


Figure 2: Definition of Core and Access Increments

The Rest

The Rest comprise the costs of all other activities of *eircom*. It includes all retail activities and those parts of the network not included in Access or Inland Core Conveyance Networks.

The principal focus of the analysis is on Inland Core Conveyance Network since it is the Inland Core Conveyance Network which is deployed in the provision of interconnection services. For this reason the Inland Core Conveyance Network is further broken down into the following network components which combined with routing factors can be constructed into interconnection and other network services.

Switching components

Subscriber unit (traffic sensitive);

Primary switch;

Secondary switch;

Tertiary switch;

Transmission components

Remote subscriber unit to Primary/Secondary switch transmission link – non length related;

Primary to Primary switch transmission link – non length related;

Primary to Secondary switch transmission link – non length related;

Primary to Tertiary switch transmission link – non length related;

Secondary to Secondary switch transmission link – non length related;

Secondary to Tertiary switch transmission link – non length related;

Tertiary to Tertiary switch transmission link – non length related;

Remote subscriber unit to Primary/Secondary switch transmission link – length related;

Primary to Primary switch transmission link – length related;

Primary to Secondary switch transmission link – length related;

Primary to Tertiary switch transmission link – length related;

Secondary to Secondary switch transmission link – length related;

Secondary to Tertiary switch transmission link – length related;

Tertiary to Tertiary switch transmission link – length related;

Non conveyance components

Leased lines and data transmission; and

Interconnection specific costs.

7.3.4 Revaluation

In order to model forward looking costs, the LRIC calculations make use of current cost accounting (CCA) valuations according to the Financial Capital Maintenance (FCM) concept.

The methodology used by *eircom* in deriving CCA asset values is described in chapter 6

7.3.5 Categorisation of costs, assets and liabilities

Large and complex organisations such as *eircom* typically generate very detailed information on costs, collated in the General Ledger, Fixed Asset Register and other such cost and accounting systems. The calculation of long run incremental costs is a significant modelling exercise due to the need to establish the relationship between different cost items and their respective drivers (i.e. deriving costs, volume drivers, dependency hierarchies and cost-volume relationships) and the need to define all algorithms and calculations.

As a consequence, there is a need to consolidate the available accounting information to provide it in a manageable form. However, this is constrained by the need to:

- ensure that the inputs are maintained at a sufficient level of granularity such that the outputs are accurate and robust;
- maintain transparency; and
- provide outputs in the required form.

7.3.6 Construction of cost categories

All of *eircom's* costs and net assets which are included in its earnings before interest and taxation, and in its capital employed (as defined on page 15) respectively are mapped into *cost types* and *cost categories*.

Cost category refers to the functional nature of the cost, for example, AXE Primary Switch, SDH Transmission Equipment, and Human Resources.

Cost type refers to the classification of costs and net assets by their accounting nature, for example depreciation is distinguished from payroll costs, fixed assets are distinguished from current assets, etc. We define a number of broad cost types as set out below:

- Maintenance opex pay: current account labour costs recorded against maintenance activities;
- Maintenance opex non-pay: current account non-labour costs recorded against maintenance activities;
- Other opex pay: current account labour costs of non-plant related activities;
- Other opex non-pay: current account non-labour costs of non-plant related activities;
- Capex pay: capitalised labour costs;
- Capex non-pay: capitalised non-labour costs;
- Other opex pay (capex-driven): expensed labour costs related to capital activities;
- Other opex non-pay (capex-driven): expensed non-labour costs related to capital activities;
- Replacement Cost (NRC): CCA written down value of fixed assets;
- HCA Depreciation: historical cost depreciation charge for the period;
- CCA Depreciation: supplementary depreciation arising on revaluation of fixed assets;
- Holding gain / loss: net holding gain/loss arising on revaluation of fixed assets; and
- Working capital: all categories of assets and liabilities that comprise capital employed except fixed assets.

7.3.7 Cost Volume Relationships

Cost volume relationships (CVRs) are fundamental to the calculation of LRIC under the top-down method. In simple terms a CVR is a two dimensional curve which describes the relationship between the volume of a cost driver and its related costs. The two key characteristics of cost volume relationships are:

the gradient of the curve ($\frac{dy}{dx}$) describing the marginal cost for each value of x (i.e. the cost driver volume); and

the intercept with the y axis when $x = 0$ describing the fixed common costs.

The diagrams below identify the six broad types of cost volume relationship that can be identified within a LRIC framework.

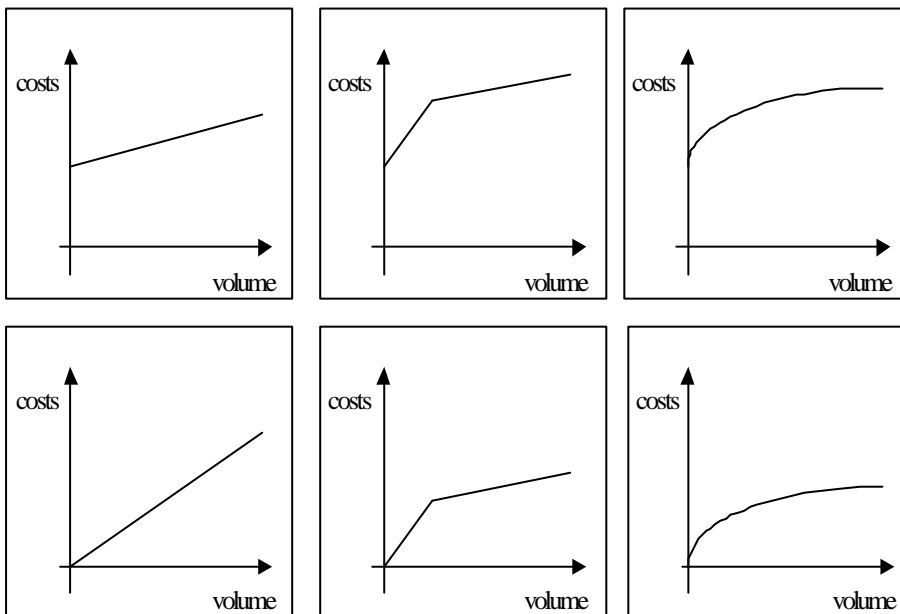


Figure 3: Types of CVR

Three methods have been used to calculate Cost Volume Relationships:

- a) engineering simulation models: engineering modelling of an asset's costs on the basis of underlying unit costs of component parts and component dimensioning criteria. The steps in the process are as follows:
 - break down the asset into its component parts;
 - derive a unit cost for each of the component parts;
 - populate the model with data reflecting all relevant assets in the network;

- apply the relevant unit costs to each asset, in order to capture any difference in the mix of component parts; and
 - flex the identified cost driver to derive a cost volume relationship.
- b) statistical surveys: surveys may be used when data to derive a cost volume relationship is not available within the organisation. As a consequence, it may be possible to derive CVR based upon regression analysis which models the relationship between costs and identified volume drivers for other operators. This would provide a sample with differing absolute cost and volume levels, and hence allow a functional relationship to be defined on the basis of external data.
- c) interviews and field research: interviews may be used to identify where in a CVR profile a structural change in the relationship may take place. As an example, interviews with the transport fleet management could be used to identify the bulk purchase discounts that could be extracted for different scales of vehicle purchases.

CVRs maintained in the model are represented with x and y axis in the range 0% to 100% of both cost driver volume and cost category amount.

7.3.8 Increment specific fixed costs

Increment specific fixed costs are costs which are independent of the relevant cost driver volume (for all or a range of cost driver volumes) but are nevertheless uniquely associated with a particular increment.

Ordinarily fixed costs are fully described by a CVR as the intercept on the y axis. However, if demand for the cost driver volume for a CVR is generated by more than one increment, and all or part of the fixed cost is specific to one increment, the CVR on its own contains insufficient information for the calculation of incremental costs.

In such cases it is necessary to define the proportion(s) of the fixed cost which is specific to one or more increments.

7.3.9 Dependent and independent cost categories

All costs within the LRIC model will be directly or indirectly related to the volume of output of the increments. However, certain costs are directly related to those volumes whereas others will only have an indirect relationship mediated through other intermediate cost drivers. We term these two classes of cost category as independent and dependent cost categories respectively.

Independent cost categories

These are cost categories that have a direct relationship to the external demand for an activity, i.e. they are not dependent on any other cost volume relationships. The cost driver volume for an independent cost category is exogenous to the model and known without calculation. An example

of an independent cost category would be AXE Primary Switching equipment being driven by demand for calls and minutes.

Dependent cost categories

These are intermediate cost categories, which while they ultimately depend on the independent cost drivers, do not have a direct relationship with any exogenous cost driver. Consequently their relevant cost driver volumes must be calculated before the incremental cost can be computed.

Dependent cost drivers are typically used for indirect and support costs for example, human resources costs depend on pay costs.

Dependent cost drivers need not have a direct relationship with independent cost drivers, but may themselves be dependent on other dependent cost drivers. Dependent cost categories have their own cost volume relationships and follow the same LRIC calculation as the independents.

Cost weighted dependent

Dependent cost categories' volume drivers are where appropriate, weighted to reflect the propensity of each increment's demand for the cost category relative to the average propensity for all increments.

7.3.10 Dependency hierarchy

The presence of independent and dependent cost categories means that there is a logical order for the calculation of incremental costs, cost category by cost category. To best capture the range of different drivers, 'hierarchies' of relationships are defined within the model. This allows for those costs that are driven by data external to the model to be calculated first, with successive interdependencies being 'rippled' through the model. The hierarchy is defined in such a way as to minimise any circularities in the dependencies.

The guiding principle in the specification of the dependency hierarchy is to define independent cost categories to be calculated first, at the 'top' of the hierarchy, then to progressively calculate dependent cost categories beginning with those that are only dependent on independent cost categories for the construction of their cost drivers, and so on down through the hierarchy until all cost categories are calculated. This structure raises the potential for circular relationships to be created. For simplicity, circular relationships are removed by breaking and ignoring one of the linkages.

7.3.11 Calculation of incremental cost of a cost category

The method of calculation of the incremental cost category, whether independent of dependent, whether cost weighted or not, is always the same:

- the cost driver volume associated with the increment is identified;
- it is converted into a percentage of the total cost driver volume, say v ;
- the y co-ordinate where $x = 1-v$ identified, say c ;
- the total cost category cost is multiplied by $1-c$; and finally
- any incremental specific fixed cost is added to give the incremental cost of the cost category.

7.3.12 LRIC results

The output of the LRIC model is long run incremental costs for each cost category and for each main increment: Access Network, Inland Core Conveyance Network and The Rest. In addition incremental costs for each of the Inland Core Conveyance Network components set out at Section 4.3 are calculated.

7.3.13 Recovery of fixed common and joint costs

Two classes of fixed common and joint costs are calculated by the model:

Intra core fixed common and joint costs being the difference between the long run incremental cost of Inland Core Conveyance Network and the sum of the long run incremental cost of the Inland Core Conveyance Network components (see Section 4.3).

Inter increment fixed common and joint costs being the difference between the total cost of *eircom* Group and the sum of the long run incremental cost of Access Network, Inland Core Conveyance Network and The Rest.

Distributed Incremental cost of Inland Core Conveyance Network

Fixed common and joint costs within Inland Core Conveyance Network are recovered as an equi-proportional mark-up on the long run incremental cost of Inland Core Conveyance Network components. The recovery is performed at the cost category level such that fixed common and joint costs are recovered only on the incremental costs to which they are common. After recovery, the sum of long run distributed incremental costs of Inland Core Conveyance Network components is equal to the long run incremental cost of Inland Core Conveyance Network

Recovery of inter increment fixed common and joint costs

These fixed common and joint costs are recovered as an equi-proportional mark-up on the long run incremental cost of Access Network, Inland Core Conveyance Network (and its network components), and the rest. The recovery is performed at the cost category level.

7.4 Key LRIC Modelling Assumptions

The following key assumptions have been made in the estimation of long run incremental costs:

Modified Scorched Node

eircom maintains its existing geographical coverage in terms of customer access and connectivity between customers, and provides the infrastructure to do this from existing network nodes. The types of equipment located at those nodes may be varied.

Thinning

Existing transmission routes are assumed to be required to provide connectivity between network nodes independent of the scale of activity within the Access Network and the Inland Core Conveyance Network. The amount and type of equipment housed in transmission routes will alter with the scale of activity.

Service

Existing quality of service levels are assumed to be maintained at all levels of output.

Constant mix assumption

The mix of demand characteristics, which impact on cost driver volumes, is assumed to be constant with respect to scale. For example, the average call duration is assumed to be the same irrespective of the number of calls passing over the network.

Increment independence

Changes in the level of activity in the Access Network are deemed to be independent from the level of activity in the Inland Core Conveyance Network and visa versa.

Weighted Average list of Capital

A Weighted Average cost of capital of 12% has been used, as determined by the ODTR.

Efficiency

No material inefficiencies, other than those incorporated in the CCA valuations, have been identified. However, exceptional costs incurred to extract efficiency improvements have been excluded from the long run incremental cost analysis. This is notwithstanding the fact that all or part of these costs relate to maintaining future productivity gains in line with best practice rather than the removal of historic inefficiencies.