Guidance on Accounting Methodologies for Regulatory Accounting Purposes

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1 Introduction

The Malta Communications Authority ("MCA") is responsible for the regulation of the Maltese telecommunications market in accordance with the powers and duties conferred on it by the Telecommunications (Regulation) Act and subsidiary legislation enacted under this Act.

In February 2002 the MCA published a consultation paper on "Accounting Separation and Publication of Financial Information for Telecommunications Operators". Subsequently, in October 2002, the MCA published a report on that consultation. These papers covered issues such as the definition of business areas for which separated accounts would be required, the format of the separated accounts, outlined regulatory accounting concepts and principles and various administrative matters such as the timeframes for publication and audit requirements.

This paper sets out guidance on the accounting methodologies and treatments to be applied in the preparation of separated accounts for the fixed, mobile and cable telecommunications sectors in Malta. The guidance applies primarily to the fixed telecommunications sector but is also applicable to the cable and mobile sectors and is provided in order to assist operators prepare separated accounts in a consistent manner. The guidance is not prescriptive, as it is understood that each operator has implemented or will implement a cost accounting and reporting system based on its own unique circumstances.

1.1 Background

The earlier consultation papers on this topic set out regulatory concepts and principles to be followed in the preparation of separated accounts. These guidelines set out the view of the MCA on the accounting treatment of various other matters. The MCA welcomes comments from interested parties on the matters included and may publish follow ups depending on responses received. The guidelines should be read in conjunction with the earlier related papers published by the MCA including:

- "Accounting Separation and Publication of Financial Information for Telecommunications Operators – Report on Consultation and Decision", MCA, October 2002.

- "Implementation of Cost Based Accounting Systems for the Telecommunications Sector – Report on Consultation and Decision", MCA, July 2002.

1.2 Objectives

The primary purpose of Accounting Separation is to ensure that charges of an operator designated as having a Dominant Market Position (DMP) are cost based, transparent and non-discriminatory The purpose of this document is to provide guidance on the treatment of a number of issues where differing methodologies could be followed and to obtain the views of interested parties on the development of accounting separation going forward.

This document is without prejudice to the legal position or the rights and duties of the MCA to regulate the market generally. This is not a legal document; the MCA is not bound by this document and may amend it from time to time.

2 Background and Legislation

Arising from the consultative process relating to Accounting Separation, the MCA has determined that cost oriented, transparent and non-discriminatory accounts will be required from all operators designated as having a DMP. The operators so designated are:

- Maltacom plc;
- Vodafone Malta Ltd; and
- Melita Cable plc.

Accounting separation involves the separate identification of all elements of cost and revenue related to the various activities of the organisation, so helping to ensure transparency of internal cost transfers and discouraging cross-subsidisation between activities.

2.1 Licence Conditions

Under the licence conditions, a licensee shall furnish to the MCA, in such manner and at such times as it may reasonably request, such network, operations and financial information as it may reasonably require for the purpose of verifying that the licensee is complying with the conditions of the licence and for statistical purposes.

2.2 Telecommunications Services (General) Regulations

Regulation 5 requires that separate accounts shall be kept in respect of each category of any licensed systems or services.

Regulation 10 of the Telecommunications Services (General) Regulations imposes the obligation on all operators to negotiate interconnection agreements with other operators of public telecommunications services. An operator with a DMP is also obliged to ensure that interconnection is accomplished at charges which are based on principles of transparency and cost orientation. Furthermore, an operator with a DMP must publish a RIO and have cost-orientated and sufficiently unbundled charges supported by transparent cost accounting systems. Regulation 12 further imposes that the RIO must include the service tariffs relating to interconnection services.

Regulation 30 also requires that an operator providing telephony services having a DMP, other than an operator of public mobile telecommunications systems and services, shall use cost oriented tariffs and shall not, without the MCA's approval, bundle a number of services into a single tariff without also offering each of the constituent services under separate tariffs.

Regulation 31 further establishes that when such an operator submits a proposal for changes in tariffs, that operator must provide support based on costs and other factors for its proposed tariffs.

Regulation 32 additionally states that the MCA may require an operator of public mobile telecommunications services to provide support based on costs and other factors for its proposed tariffs, and the MCA may also offer an opportunity for comment upon the proposed tariffs by other operators and by customers.

Regulation 45 also states that an operator shall furnish the MCA with accounts which show separately the annual turnover per service category, and with accounts which show annual costs using cost accounting methods to be defined by the MCA, for network services provided to other operators and for services provided under the universal service obligations.

2.3 Cable Systems (General) Regulations

Regulation 11 of the Cable Systems (General) Regulations establishes that an operator providing cable television and radio services having a DMP shall use cost oriented tariffs and shall not, without the MCA's approval, bundle a number of services into a single tariff without also offering each of the constituent services under separate tariffs.

Regulation 12 further states that when such an operator submits a proposal for changes in tariffs, that operator must provide support based on costs and other factors for its proposed tariffs.

Regulation 25 also states that an operator shall furnish the MCA with accounts which show separately the annual turnover per service category, and with accounts which show annual costs using cost accounting methods to be defined by the MCA, for system services provided to other operators and for services provided under the universal service obligations.

2.4 EU Legislation and Recommendations

There is a range of relevant legislation in this area; the most relevant of which is summarised below:

Interconnection Legislation

- *Council Directive 97/33/EC on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of Open Network Provision (ONP),*

  This legislation states that organisations providing public telecommunications networks and/or publicly available services that have been designated as having Significant Market Power (Dominant Market Position in a Maltese context) and which offer interconnection services to other organisations are required to keep separate accounts for their activities relating to interconnection and 'other activities'. These accounts should identify all elements of cost and revenue, 'with the basis of their calculation and the detailed attribution methods used, related to their interconnection activity including an itemised breakdown of fixed asset and structural costs.'

  National regulatory authorities shall ensure that a description of the cost accounting system, showing the main categories under which costs are grouped and the rules used for the allocation of costs to interconnection, is made available on request.

  NRAs 'may publish such information as would contribute to an open and competitive market, while taking account of considerations of commercial confidentiality.'

Voice Telephony Legislation

- *Council Directive 98/10/EC on the application of open network provision (ONP) to voice telephony and on universal service for telecommunications in a competitive environment,*

  This legislation states that an organisation, which has an obligation for its tariffs to follow the principle of cost orientation in accordance with the legislation, shall operate and maintain a cost accounting system based on generally accepted accounting practices and which is suitable for compliance with the legislation's requirements.

Leased Lines

- *Council Directive 92/44/EC on the application of open network provision to leased lines as amended by 94/439/EC and Directive 97/51/EC*

  This legislation states that tariffs for leased lines must follow the basic principles of cost orientation and transparency, independent of the type of application that the users of the leased lines implement. A notified organisation shall operate and maintain a cost accounting system suitable for implementation of these and other principles set out in the legislation.

Licence Conditions

Licences issued to SMP operators may contain provisions to the effect that, inter alia, the licensee maintains accounting records in a form that enables the activities of any business unit specified in any direction given by an NRA to be separately identifiable, and that the NRA considers to be sufficient to show and explain the transactions of each of those business units.

European Commission Recommendations

In addition to the above, the Commission has published recommendations on the pricing of interconnection as well as on costing methods that could be used to calculate such prices. The relevant documents are:

- *Commission Recommendation of 8 April 1998 on interconnection in a liberalised telecommunications market – Part 2 – Accounting separation and cost accounting) (98/322/EC).*

  This Commission Recommendation (the "8/4/98 Recommendation") concerns the implementation of accounting separation and cost accounting systems by operators designated by their NRA as having significant market power in accordance with Article 8(2) of Directive 97/33/EC for implementation of interconnection obligations, with particular regard to the principles of transparency and cost orientation.

New Framework

A New Regulatory Framework for the regulation of electronic communications and services has been adopted by the European Union. This comes into force in all member states on 25th July 2003. Five new directives replace the current regulatory regime. Member States have 12 months to complete transposition by enacting the necessary legislation and establishing appropriate administrative procedures. In the interim, the current regulatory framework remains in force and SMP obligations still hold, until such time when market reviews have been completed. The new framework also provides for accounting separation to be mandated in a number of cases where regulatory obligations are justified.

3 Scope of the Guidelines

These guidelines are intended to assist operators on the costing methodologies to be adopted in the development of their regulatory accounts. In particular, the sections to follow consider: -

- the principles of cost causation in the cost allocation process,
- the types of cost allocation,
- sampling techniques used in cost allocations,
- relevant costs for separated accounts versus accounts for decision making,
- the assessment of capital employed,
- the need for consistency in the treatment of working capital,
- asset lives and depreciation, and
- revenue allocation.

The above issues will be addressed in light of the legislative framework as outlined in Section 2.

The MCA may issue updates to this report recommending methods of cost allocation to be used by a DMP operator. These methods will provide summary guidance only. Individual DMP operators will still need to develop detailed cost allocation procedures specific to the way in which they currently capture and record costs, and to refine these over time, as appropriate. The MCA will require each DMP operator to publish a description of its cost accounting system along with its published separated accounts.

4 The Cost Allocation Process

This section sets out guidance on the cost allocation process and the principles that should be followed in order to allocate capital and operating costs, capital employed and revenues for the purposes of preparing separate accounts. These principles are also relevant to the determination of interconnection and lease line charges. Unless otherwise stated the guidance applies to the fixed and mobile telecommunications sectors and to the cable sector. Where it applies to a specific sector only the guidance will be identified accordingly.

4.1 Principles of Cost Allocation

The Commission Recommendation of 8 April 1998 recommends that a system such as Activity Based Costing ("ABC") should be used to allocate costs, capital employed and revenue. Costs and revenues should be allocated to services or products on the basis of those activities that cause those costs or revenues to arise.

The amount of overheads required to be apportioned on an arbitrary basis, because there is no particular activity to which they can be directly or indirectly allocated, should be kept to an absolute minimum. The Recommendation states that a "well defined cost-allocation system will enable at least 90 % of the costs to be allocated on the basis of direct or indirect cost-causation[1]".

Following the principle of causation requires an operator to implement appropriate and detailed cost allocation methodologies in its cost accounting system. In practice, this would require an operator to:

a) review each item of cost, capital employed and revenue,

b) establish the driver that caused each item to arise, and

c) use the driver to allocate each item,

d) pooling costs that cannot be related on a causation basis to activities and allocating on a predetermined basis. These types of costs are considered further in the following paragraphs on unattributable costs.

[1] Directly attributable costs are those costs that can be directly and unambiguously related to a product or service. Indirectly attributable costs are those costs that can be apportioned to products or services on a measured non-arbitrary basis based on the relationship of the costs with directly attributable costs (i.e. using usage factors for each consuming shared resources).

Other important principles referred to in the earlier consultation paper were: -

i) **Transparency:** The methodology should be transparent. Costs which are allocated should be separately identified to those costs which are apportioned. The operator should also publish updated versions of its cost allocation methodology when changes are made to it.

ii) **Consistency:** The same bases of allocation should preferably be used from year to year unless there are necessary changes in which case the operator should restate the previous year's separate accounts on the new basis.

iii) **Objectivity:** The basis chosen should be objective and supported by survey or other objective criteria.

In addition to the concepts included in the consultation paper a further concept dealing with materiality should be considered. The use of specific allocation bases may not be necessary if the effect on the allocation is not material to the outcome. Of course, it may not be possible to measure the effect without adopting an alternative basis and, in cases of doubt, the most appropriate activity related cost apportionment basis should be used.

4.2 Cost Categories

Following the principle of cost causation, each item of cost and revenue should be allocated to the products and services provided by an operator. In the case of revenue most, if not all, revenues can be allocated directly to their related products or services. However, this is not the case for costs due to the relatively high proportion of the costs that are shared between different products and services. Each cost item may be considered to fall into one of the following categories:-

a) Direct and directly attributable costs

Direct costs are those costs that can be directly and unambiguously related to a service or product and which are recorded against the relevant product or service in the operator's accounting system.

Directly attributable costs are also directly and unambiguously related to a service or product but they are not recorded in the financial accounts against the product or service to which they relate.

The following may be examples of direct or directly attributable costs:-

- Wages and salaries of Directory Enquiries staff which can be allocated directly to the Directory Enquiries service; and

- Product-specific software development costs which can be directly allocated to the product in question.

b) Indirectly attributable costs

Indirectly attributable costs are those costs that can be related to a service or product on a non-arbitrary basis based on the relationship of the costs to direct and directly attributable costs. Such costs shall be allocated to the relevant service or product using an appropriate cost driver (e.g. usage of shared facilities).

For example, depreciation relating to power equipment may initially be allocated to the power equipment to which it relates. It may then be allocated to the network equipment that is supported by that power equipment (possibly on the basis of usage).

In order to derive the apportionment bases sampling techniques may be used, as long as these are based on appropriate statistical techniques, which result in an immaterial margin of error (This topic is further discussed at Section 4.4).

c) Unattributable costs

Unattributable costs are those costs for which no direct or indirect method of apportionment can be identified. It is therefore not possible to allocate these costs to products and services on a non-arbitrary basis. These costs are likely to be of the character of 'corporate overheads'.

A significant level of telecommunications operators' costs are joint and common in nature, however the rigorous application of cost causation methods may be expected to reduce substantially the proportion of these costs that are truly unattributable.

The Recommendation of 8 April 1998 recommends that "..unattributable costs (the costs which can only be attributed on an arbitrary basis) be clearly identified in a specific account and be the subject of a specific treatment by the NRA.." in accordance with relevant competition rules and in compliance with the principles of transparency and proportionality.

There are many different ways of allocating unattributable costs to products and services. The Attributable Cost Method, or Equal

Proportionate Mark-Ups ("EPMUs"), is an example of one way of allocating these costs. This method allocates the unattributable costs in proportion to the attributable costs[2] of products and services. Extracts from relevant EU legislation on the treatment of unattributable common costs are set out in Appendix I, the methods described are similar to the Attributable Cost Method. There are a number of arguably more complex approaches to the allocation of unattributable costs for price-setting purposes[3]. The informational requirements of such approaches may be more onerous than for methods such as EPMUs.

The decision on what is an appropriate approach must take account of:-

- The practicalities of implementing the approach;
- The proportion of costs considered unattributable; and
- The nature of unattributable costs: it may, for example, be appropriate to apply separate mark-ups for capital and operating costs. Also, it may be necessary to apply one mark-up for those unattributable costs that relate to a sub-set of products and services only, and another mark-up for those unattributable costs that are truly common to all services.

4.3 A Typical Cost Allocation Process

Set out in Appendix II is a typical cost allocation process. It should be noted that actual allocation processes may vary depending on the entity's organisational structure and the way(s) in which financial/operating data are captured, and will be considerably more complex and involved than Appendix II implies, but the ultimate aim of allocating costs is the same.

4.4 Sampling Techniques

Operators may need to use sampling techniques and periodic activity reviews in order to allocate costs to the services that the operators provide and, subsequently to the businesses defined for the purposes of accounting separation. The most accurate sampling data will come from surveying the entire population of interest. However, limited resources may prevent entire populations being used for such allocations and an operator may have to base its allocations on samples of the entire population. For example, periodic analysis of the tasks undertaken by staff in customer call centres

[2] Including direct costs, directly allocated costs and indirectly attributable costs.
[3] For example, Ramsey pricing.

may be used to determine the amount of time spent by those staff on different tasks. This information would then be used to allocate - either directly or indirectly - all of the costs associated with the staff to the services provided by the operator.

It is essential that any sample data used for allocation purposes is unbiased and sufficiently large enough to be representative of the total population data e.g. sample traffic data is representative of the entire traffic, and is not skewed by seasonal or other factors.

4.5 Relevant Costs for Regulatory Decisions

Regulatory decision making is based on a combination of financial analysis and non-financial information. Financial analysis involves the review of relevant costs, which can be defined as costs arising as a direct consequence of the current decision to provide a specific product/service.

Some costs, while appropriate to be included in the financial accounts, may not be allowed for regulatory decision making purposes.

Standard accounting practice differentiates between exceptional items and extraordinary items[4].

Exceptional items are material items which derive from events or transactions that fall within the ordinary activities of the reporting entity and which individually or, if of a similar type, in aggregate, need to be disclosed by virtue of their size or incidence if the financial statements are to give a true and fair view.

Extraordinary items are material items possessing a high degree of abnormality which arise from events or transactions that fall outside the ordinary activities of the reporting entity and which are not expected to recur. They do not include exceptional items nor do they include prior period items merely because they relate to a prior period.

All exceptional and extraordinary costs will need to be disclosed separately in the presentation of separated accounts with a note detailing the

[4] In May 2002 the International Accounting Standards Board published an Exposure Draft on *Improvements to International Accounting Standards,* which prohibits the classification of any item as extraordinary, and mandates separate disclosure of items that are of such a size, nature or incidence that their disclosure is relevant for an understanding of the financial performance of the business. When these changes come into force the definition and treatment of such items in the regulatory accounts should reflect those accorded in the statutory accounts.

circumstances and impact of the item(s). The MCA will review these and decide on a case by case basis whether they will be allowed for regulatory decision making purposes.

5 Operating Cost Allocation

This section considers the application of the principles described in Section 4 to the operating costs, including depreciation, of operators.

The cost allocation process outlined in the previous section and in Appendix II relates, in principle, to both operating and capital costs. Appendix III provides a summary of possible allocation and attribution methods for operating costs under the following headings:

- depreciation,
- provision, installation and maintenance costs,
- network planning and development costs,
- network management costs,
- marketing and sales costs,
- billing and collection costs,
- operator services costs,
- directory services costs,
- payments to other operators, and
- support costs.

These allocation and attribution methods are from the *Commission Recommendation of 8 April 1998 on interconnection in a liberalised telecommunications market – Part 2 – Accounting separation and cost accounting) (98/322/EC)* and the headings are purely illustrative and are not intended to reflect the way in which operators are expected to record costs. They provide high-level guidance only and individual operators will have to develop cost allocation procedures specific to the way in which they currently capture and record costs. These procedures should be refined over time as appropriate. The final column of the table in Appendix III provides an indication of the principal businesses to which it might be expected that the majority of the operating costs in question would be allocated.

6 Allocation of Capital Employed

This section considers the application of the principles described in Section 4 to calculating the allocation of capital employed and its calculation.

There must be consistency between the measure of capital employed on which the return is based and the measure of capital employed reported in the separate accounts required by the Interconnection Directive[5]. This consistency will enable comparison of the actual percentage returns earned by operators from their activities such as interconnection with the cost of capital allowed by the MCA when reviewing charges for these activities.

6.1 The Cost of Capital and Capital Employed

Charges for wholesale and retail services should be cost-oriented, whilst allowing for a reasonable return on investment. The determinants of the level of this return are the cost of capital and a capital value.

The calculation and setting of a cost of capital for the purpose of setting interconnection charges is outside the scope of these guidelines. However, there must be consistency between the measure of capital employed on which the cost of capital is based and the measure of capital employed reported in the regulatory accounts.

6.1.1 Cost of Capital

The cost of capital should reflect the opportunity cost of funds invested in network components and other related assets. It conventionally reflects the following:

- The (weighted) average cost of debt for the different forms of debt held by each operator;
- The cost of equity as measured by the returns that shareholders require in order to invest in the network given the associated risks; and
- The values of debt and equity.

[5] Commission Recommendation of 8 April 1998 on interconnection in a liberalised telecommunications market (as amended) – Part 1 Interconnection Pricing (98/195/EC as amended by 98/511/EC)

This information can then be used to determine the weighted average cost of capital (WACC) using the following formula:

$$WACC = r_e \,.\, E/(D+E) + r_d \,.\, D/(D+E) \,.\, (1-T)$$

where r_e is the cost of equity, r_d is the cost of debt, E is the total value of equity, D is the total value of interest-bearing debt and T is the corporate tax rate. This calculation gives the post tax WACC which needs to be converted to the pre-tax rate (i.e. WACC post tax divided by (1-T)).

Different operators will have different capital structures and will probably have different betas and it follows therefore that the cost of capital allowed will be different in each case.

6.1.2 The WACC and capital value

The WACC must be applied to a capital value for network components and other related assets in order to determine the return that needs to be recovered. While it may be easy to identify the values of debt and equity for each operator as a whole, it is not easy to do so for each of its constituent activities. This is because decisions about debt finance are largely corporate decisions determined by a number of factors, such as historical borrowing facilities and tax planning considerations. Where operators have different businesses which have been financed by a mixture of debt and shareholders funds over time it may be more difficult to identify the debt structure for disaggregated activities. An alternative approach to determining the capital value for regulated activities (such as interconnection) is therefore required.

One approach is provided by the following balance sheet identity:

Shareholders' funds (i.e. equity) + Debt = Net Assets excluding debt[6]

It follows that the capital values of regulated activities can be determined by apportioning net assets or capital employed. This apportionment should be carried out on a causal basis and under current valuation methodologies.

6.1.3 Capital employed

Appendix IV provides a summary of possible allocation methods for different items of capital employed, together with an indication of the principal businesses to which it might be expected that the majority of each item would

[6] i.e. fixed assets + current assets – creditors (excluding debt) - provisions.

be allocated. These allocation methods are from the *Commission Recommendation of 8 April 1998 on interconnection in a liberalised telecommunications market – Part 2 – Accounting separation and cost accounting) (98/322/EC).*

The application of these and, as appropriate, other methods will determine the capital values of different regulated activities, including interconnection.

The table is not intended to be an exhaustive list of items that might be classified as capital employed nor of the methods for allocating them to different activities

The application of these and, as appropriate, other methods will determine the capital employed of the different activities of an operator. This apportionment should be carried out on a causal basis.

The average capital employed during any period rather than capital employed at a single point in time (such as the financial year-end) is used for price-setting purposes. This is because a 'snap-shot` at any point in time may not be representative of the average level of capital employed by operators in their activities. Specifically, the working capital balance of an activity at a single point in time may not be representative of average working capital requirements of that activity over an extended period of time.

6.2 Consistency of Treatment of Working Capital

Appendix IV also sets out one approach to the treatment of working capital in the calculation of capital employed. There are, however, other approaches which may be equally valid. There are two principles that should be applied when considering the treatment of individual items of working capital. They are as follows:-

a) there should be consistency between the treatment of assets and their associated costs and revenues, and

b) inclusion or exclusion of individual items ought, in principle, to have a corresponding impact on the return on capital employed. These two effects (i.e. the decision to include or exclude items and the corresponding adjustment to the return on capital employed) offset each other in terms of their overall effect on the absolute return required by operators.

6.3 Asset Lives

Virtually all fixed assets have finite useful economic lives. In order to reflect properly all the costs of an operator, it is necessary for there to be a charge in respect of the use of such assets, i.e. depreciation.

Depreciation has been defined a measure of the wearing out, consumption or other reduction in the useful economic life of a fixed asset, whether arising form use, effluxion of time or obsolescence through technological or market changes. Depreciation should be allocated so as to charge a fair proportion of cost or valuation of the asset to each accounting period expected to benefit from its use.

The assessment of depreciation and its allocation involves the consideration of three factors:

a) The carrying amount of the asset

b) The length of the asset's expected useful economic life to the business and

c) The estimated residual value of the asset at the end of its useful economic life

It is essential that asset lives are estimated on a realistic basis.

The determination of the useful economic lives of fixed assets in telecommunications is complicated by the rate of technological change in the industry. This has implications in both identifying suitable useful lives for old technology assets and ensuring the assets exhibit the same levels of functionality and capability.

Examples of technological issues for telecommunications operators include:

- Copper versus fibre cables;
- Analogue versus digital switches

The new technologies are usually far superior to the old technologies in terms of functionality and efficiency. This needs to be reflected in the number of years over which these old and new technology assets are depreciated. It also has implications for fixed asset classes.

Appendix VI gives an example of the functional areas \ asset classes to be found in a telecommunication operator's PSTN network. The diagram illustrates six main functional areas in the PSTN network:-

1) User Terminating Equipment

2) Remote Concentrator Unit

3) Local Exchange Switch

4) Transit Exchange Switch

5) International Switching Centre

6) Interconnecting Transmission and equipment

Due to the varying technologies in and hence useful lives of each asset class, it would be inappropriate to use one overall asset life for all assets. Also, the different technologies within each of the classes raise the issue of the appropriateness of using an overall asset life for each asset class. For example, should the asset lives of transmission links be set based on their technology (copper, fibre, etc.), or their location in the network (Local loop, Junction) or both, or only on their asset class (transmission links).

The appendices listed below provide an overview of some of the various network elements and components that make up a telecommunications network.

These appendices are not an exhaustive list of all telecommunications network elements and components, or of all the different technologies that are used in each element and component.

Appendix VII – Transmission Elements of PSTN Network

Appendix VIII – Switching Elements of PSTN Network

Appendix IX – Other Network Assets

Appendix X – General Fixed Assets

7 Revenue Allocation

7.1.1 Revenue from Telephony Activities

Generally the revenues from the provision of telephony products and services can be directly allocated to the products and services to which it relates based on accounting records and billing system information. In those instances where direct allocation based on the above is not possible, revenues should be attributed on the basis of causation.

The allocation of revenue from telephony services between the main business areas of an operator is summarised in Appendix V. These allocation methods are from the *Commission Recommendation of 8 April 1998 on interconnection in a liberalised telecommunications market – Part 2 – Accounting separation and cost accounting) (98/322/EC).*

7.1.2 Other Revenue

Operators may also earn income from non-telephony services. These revenues should be allocated to the activities to which they relate in accordance with the principle of causation.

One example of non-telephony revenue would be the revenue from sub-letting parts of the properties used by the telephony businesses. This revenue could be treated in a number of different ways as follows:-

a) treating the revenue as revenues for the business sub-letting the accommodation,

b) recording the revenue under 'Other Activities`.

It is important that notwithstanding the actual approach used, the treatment of non-telephony revenues and their associated costs is consistent. Failure to do so would lead to the profits of one business area being understated and the profits of another overstated.

7.1.3 Income from Fixed Asset Investments

Income from Fixed Asset Investments should be allocated in the same way as the investments to which it relates. Following the allocation approach in the Recommendation of 8 April 1998 (which is set out in the Appendix IV and discussed in the preceding section) to the allocation of Pure Financial Investments and Investments in Unrelated Activities the income from these investments would be allocated to 'Other Activities'. Income from Fixed Asset

Investments would only be allocated to other business areas (e.g. Core Network) if the related investments were allocated in this way.

7.1.4 Income from Short-Term Investments

The same principles apply to income received from short-term investments. The income should be allocated to the business to which the associated investment is allocated.

8 Separated Accounts for Mobile Operators

Several countries in Europe have commenced the process of requiring accounting separation from designated mobile operators. Countries such as Denmark, Luxembourg, the UK and France have required mobile operators to produce separated accounts based on different requirements and formats. Ireland also launched a consultation on this subject in October 2002. Of the former countries, France through the ART[7], has produced detailed guidance on the form and content of the separated accounts.

In the Decision on Accounting Separation the MCA has indicated to Vodafone Malta Limited (VML) that the MCA will require accounting separation and reporting between the access network, the core network, retail activities and other activities. For the initial set of separated Regulatory Accounts no further disaggregation will be required. Once VML commences the commercial provision of international gateway services the MCA may request additional financial information attributable to the provision of this service and also for "Retail Activities"[8].

It is anticipated that VML will implement a cost accounting system which will enable it to manage its activities at a lower level of detail but will not be required to report to the MCA at a level of disaggregation lower than that notified. The guidance set out below is for information purposes only and is indicative of the future development of regulatory accounting and reporting.

On 11 May 2001, the ART adopted its interconnection tariff conditions for operators with SMP in the interconnection market[9]. This decision specifies clearly the rules for accounting separation and cost allocation, as well as the format in which accounting information should be provided to the ART.

The ART identified mobile operators' main cost items as follows:

1. Network activities;
2. Interconnection purchase from other operators;
3. Sales and marketing activities;
4. Customer service;
5. Billing and collection; and
6. Common and structural activities.

[7] Autorité de Régulation des Telecommunications (ART) is the regulator for the telecommunications industry in France.
[8] As notified in Appendix II of the Report on Consultation and Decision Notice on Accounting Separation and Publication of Financial Information, MCA October 2002.
[9] Lignes directrices relatives aux conditions tarifaires d'interconnexion des opérateurs mobiles puissants sur le marché national de l'interconnexion. ART 11 May 2001.

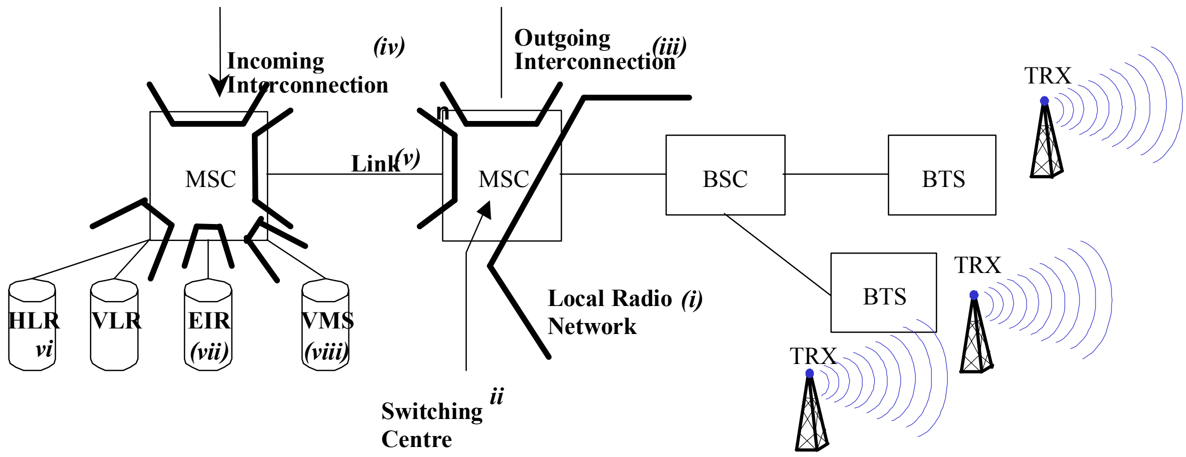
The ART decided to use historic costs, because it considered that mobile operators were relatively economically efficient due to the recent deployment of their networks. Accordingly, the use of historic costs was not considered to present any drawbacks. The MCA has also mandated the use of historic cost for accounting separation purposes in Malta.

The ART distinguished between the following types of call:

1. On-net calls;
2. Calls to other mobile operators;
3. Calls to fixed operators;
4. Incoming calls (both from fixed and mobile); and
5. Incoming international calls (both from fixed and mobile).

The MCA considers that the availability of separate statements showing the individual performance of the above activities will be particularly relevant. Recent developments indicate that further separation of SMS, data and roaming calls is likely to become more relevant. As a result, systems should also be able to be capable of incorporating additional levels of reporting.

The diagram below distinguishes between the primary network elements.



i) Local radio network;

ii) Mobile Services Switching Centre (MSC);

iii) Outgoing interconnection link;

iv) Incoming interconnection link;

v) Inter- Mobile Services Switching Centre link;

vi) The Data Bases (Home Location Register (HLR), Visitor Location Register (VLR);

vii) The Equipment Identity Register (EIR); and

viii) The Voice Mail Server (VMS).

The ART set out specific reporting formats for the elements set out above and provided guidelines to the operators on the format that they should use to provide the detailed separated accounts. This should be done by using five different forms:

Form 1: Total yearly costs by activity i.e. network activities, interconnection etc.

Form 2: Analysis of network activity costs;

Form 3: Routing factors matrix;

Form 4: Revenue allocation; and

Form 5: Cost analysis by call type.

The ART also specified that an audit by a third independent party may be necessary to ensure the accuracy of the data provided by the mobile operators.

9 Separated Accounts for Cable Operators

The MCA has designated Melita Cable plc as having a Dominant Market Position. Melita Cable plc is therefore required to produce separated accounts. In the report on consultation the MCA determined that Melita Cable plc would be required to prepare separated accounts for its access network, core network, retail activities and other activities. For the initial set of separated Regulatory Accounts no further disaggregation would be required. This position may be reviewed in the future and the further disaggregation of "Retail Activities" may be requested when deemed necessary by the MCA[10].

It is anticipated that Melita Cable plc will implement a cost accounting system which will enable it to manage its activities at a lower level of detail but will not be required to report to the MCA at a level of disaggregation lower than that notified.

The development of a costing methodology for Melita Cable plc also needs to take into account the complexity of the cable business and the different services provided along with the basic cable TV service.

The cable business comprises the following:

Core network

- Forward Path Facilities, and
- Return path facilities, including head end equipment and network management facilities .

Local access network

- Cable TV drops,
- Installation Services,
- Drop Maintenance services, and
- Cable Internet installations.

Retail

- Broadcast Cable TV Services
- Leased Line Services

Other

- Equipment Services Supply
- Other Activities

[10] As notified in Appendix II of the Report on Consultation and Decision Notice on Accounting Separation and Publication of Financial Information, MCA October 2002.

As stated above the MCA will require Melita to report on its activities at the level of the access network, core network, retail activities and other activities.

Services provided

The range of services provided or to be provided includes:

Retail Services

- Broadcast Services
- Internet Services
- Leased Line Services
- Remaining Activities

The revenues, costs and capital employed in the delivery of each service will be separately reported. Further disaggregation of the Broadcast Services category may also be required for price control purposes.

Revenue

The revenue earned from each customer should be readily capable of being analysed over the various services based on billing records. Revenue will be allocated to the retail services in the first instance and a charge established from the network

New connection fees should be analysed in accordance with the services which the customer has agreed to subscribe to.

Costs

Direct costs such as channel expenses, programme costs, copyright can be allocated directly to channels and thus to services.

Indirectly attributable channel expenses such as salaries of the programming department should be allocated to channels using a suitable causal relationship. Billing and Collection costs should be allocated based on the revenue earned from channels. Customer service costs should likewise be allocated on the basis of a suitable driver such as the number of subscribers while making allowance for the additional complexity associated with different customer profiles. For example, a subscriber to the Family package is likely to require and consume a higher level of customer service than a customer subscribing to the Reception package

The overall principle in apportioning costs should be that each tier of subscriber has a fair apportionment of cost that is appropriate to the level of service that is enjoyed by each subscriber segment. Thus, subscribers to premium content and services are likely to incur a higher level of cost than basic or reception level subscribers. In order to achieve this it will be necessary to establish a weighting mechanism to spread the costs on an equitable basis. Such a weighting mechanism can be based on the channels available to subscribers such that the number of channels is the driver for the apportionment of cost.

In order to take account of subscribers who have additional outlets the costing system should be weighted in such a manner that the additional costs related to the provision and maintenance of additional outlets is taken into account.

10 Conclusion

These guidelines have been prepared with a view to being comprehensive, clear and accurate with the flexibility to be amended having regard to the changing structure and nature of the telecommunications market in Malta and globally. These guidelines are being offered by the MCA for comment by interested parties. Comments should be sent to:

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Written comments may be made publicly available at the MCA unless confidential. Respondents are therefore asked to separate out any confidential material into a clearly marked annex. Respondents are also kindly requested to refer their comments to the specific sections of this document.

Appendix I – Extracts from EU Legislation Relating to Unattributable Costs

Council Directive 98/10/EC on the application of open network provision (ONP) to voice telephony and on universal service for telecommunications in a competitive environment

Article 18 Paragraph (3) (b)

“common" costs, i.e. costs which cannot be directly assigned to either the voice telephony service or other activities, shall be allocated as follows:

i) whenever possible, common cost categories shall be allocated on the basis of direct analysis of the origin of the costs themselves;

ii) when direct analysis is not possible, common cost categories shall be allocated on the basis of an indirect linkage to another cost category or group of cost categories for which direct assignment or allocation is possible; the indirect linkage shall be based on comparable cost structures;

iii) when neither direct nor indirect measures of cost allocation can be found, the cost category shall be allocated on the basis of a general allocator computed by using the ratio of all expenses directly or indirectly assigned or allocated to, on the one hand, the voice telephony service and, on the other hand, other services.

Other cost accounting systems may be applied if they are suitable for the implementation of Article 17 and have been approved as such by the national regulatory authority for application by the telecommunications organisations, subject to the Commission's being informed prior to their application.”

Council Directive 92/44/EC on the application of open network provision to leased lines as amended by 94/439/EC and Directive 97/51/EC

Article 10 Paragraph 2 (b)

“common costs, that is costs which can neither be directly assigned to leased lines nor to other activities, are allocated as follows:

i) whenever possible, common cost categories shall be allocated based upon direct analysis of the origin of the costs themselves;

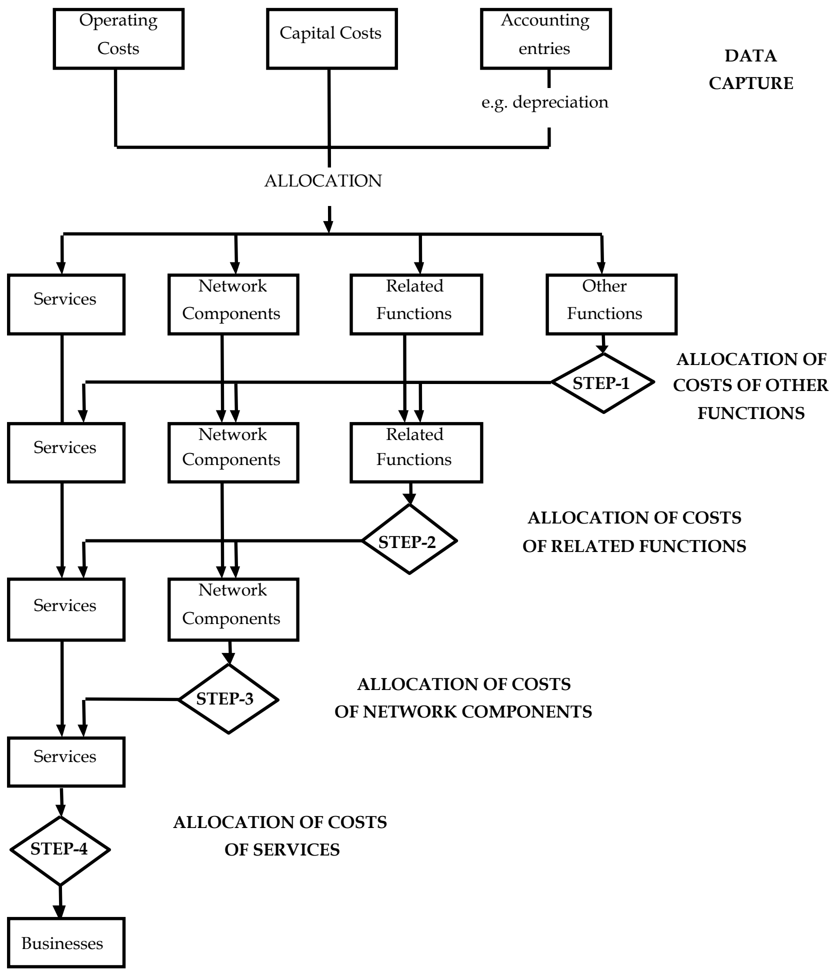
ii) when direct analysis is not possible, common cost categories shall be allocated based upon an indirect linkage to another cost category or group of cost categories for which a direct assignment or allocation is possible. The indirect linkage shall be based on comparable cost structures;

iii) when neither direct nor indirect measures of cost allocation can be found, the cost category shall be allocated on the basis of a general allocator computed by using the ratio of all expenses directly or indirectly assigned or allocated to leased lines, on the one hand, to those allocated to other services, on the other hand.

After 31 December 1993, other cost accounting systems may be applied if they are suitable for the implementation of paragraph 1 and have as such been approved by the national regulatory authority for application by the telecommunications organisations, subject to the Commission's being informed prior to their application."

Appendix II – A Typical Cost Allocation Process

The cost allocation process starts from information and data captured by the general ledger or other costing or financial systems operated by the company. The costing information held by these systems may be divided between operating costs, capital costs and accounting entries such as depreciation.



Costs may be attributed either directly to services or to cost pools called network components, related functions or other functions. These are defined as follows:

- Services — These are the costs that can be directly identified with a particular service. For these purposes, the term 'service` refers both to end-user services (e.g. the provision of payphones) and intermediate services (e.g. network services).
- Network Components — This pool contains the costs relating to the various components of transmission, switching and other network plant and systems. The costs will be in respect of network components that cannot be attributed directly to a particular service as they are utilised in the provision of a number of services.
- Related Functions — This pool contains the costs of functions necessary for the provision of services to the customer such as billing, maintenance, and customer services.
- Other Functions — This pool contains the costs of functions that are not related to the provision of particular services but are an important part of the operations of the company. Examples of such costs include planning, personnel and general finance.

As noted, there are a series of steps, which allocate cost pools in a tiered approach to eventually allocate costs to services. These step allocations are performed using appropriate drivers. Each step is summarised below:

Step 1 The allocation of other functions across related functions, network elements and services.

Step 2 The allocation of the related function costs to services and the network elements.

Step 3 The allocation of network components to services.

Step 4 The grouping of services into businesses (as defined for the purposes of accounting separation).

Each of the allocation steps illustrated above could involve a number of detailed sub-steps, particularly if the initial capture of cost information is at an aggregated level. Where it is possible to perform an allocation via a number of direct or indirect attributions this is preferable to allocation through a single step.

Appendix III – Methods of Allocating Operating Costs[11]

Category of Operating cost	Description	Method of Allocation	Principal Businesses
Depreciation	Depreciation	The allocation of depreciation should follow the allocation of the fixed assets to which it relates.	All
Provision and installation of Equipment	Payroll costs	Direct to network components/other plant where possible; otherwise allocate based on the time spent carrying out installation work.	Core Network, Local Access-Network
	Installation, contract and Maintenance costs	Direct to network components/other plant on the basis of the plant installed or maintained where possible.	Core Network, Local Access-Network
Maintenance and repair costs	Payroll costs	Direct to network component/other plant where possible; otherwise allocate based on the time spent carrying out installation work.	Core Network, Local Access-Network
	Other costs	Direct to network components/other plant where possible.	Core Network, Local Access-Network
Network planning and developments costs	Payroll and external costs	Direct to network component/other plant where possible.	Core Network, Local Access-Network
Network management costs	Payroll costs	Allocate to network component/other plant on the basis of the time spent by staff to manage each type of plant.	Core Network, Local Access-Network
	Other costs	Allocate to network components/other plant on the basis of the plant managed, where possible.	Core Network, Local Access-Network

[11] Commission Recommendation of 8 January 1998 on interconnection in a liberalised telecommunications market – Part 2 – Accounting separation and cost accounting (98/322/EC)

Category of Operating cost	**Description**	**Method of Allocation**	**Principal Businesses**
Marketing and sales costs	Payroll	Direct to products and services where possible; otherwise allocate between products based on labour time.	Retail
	Cost of sales of equipment	Allocate to customer equipment services within "Other activities".	Other Activities
	Publicity, Promotions, Market research, Distributors fees, Other costs	Direct to products and services where possible. Otherwise, for those costs where multiple services are being marketed or promoted, cost should be attributed to the related services on a reasonable basis.	Retail
Billing and collection costs	Payroll costs	Direct to products and services where possible; otherwise allocate between products based on labour time.	Retail (some costs to Core Network)
	Other billing costs (incl. Bad debts)	Direct to products and services where possible; otherwise allocate between products based on usage (e.g. number of bills produced).	Retail (some costs to Core Network)
Operator services costs	Payroll costs	Direct to services where possible. The costs of staff that carry out tasks for several operator services should be allocated to the related operator services based on time spent on different tasks.	Retail
Directory services costs	Payroll and other costs	Direct to products and services.	Retail
Payments to other operators	Out-payments for outgoing international traffic	Direct to products and services.	Retail
	Payments for interconnection agreements	Direct to products and services.	Retail

Category of Operating cost	Description	Method of Allocation	Principal Businesses
Support costs	Human resources function costs	HR function costs should be allocated to the staff that are overseen by the HR function and allocated using the same basis as the payroll costs of HR staff.	All
	Finance and other head office support functions	If related specifically to a product, service or business allocate accordingly.	All
	Building costs and rent	Costs should be allocated in the same, way as land and buildings.	All
	General computing/IT costs	Allocate to the applications run by the operator on the basis of the use of the computers to support each application. Costs allocated to applications can then be attributed to those products and services that they support.	All

Appendix IV – Methods of Allocating Capital Employed[12]

Category of assets and liabilities	Description	Method of Allocation	Principal Businesses
Tangible assets			
Primary Plant-			
Switching equipment	Local switching equipment	Direct to access or network components where possible. Otherwise allocate to Local Access-Network services and to network components on the basis of the relevant cost of the equipment dedicated to provide customer lines and of the parts dedicated to switch traffic, respectively. Local switch network components can be allocated to products and services based on seconds of use.	Core Network (some costs to Local Access-Network)
	Tandem switching equipment	Direct to network components where possible, otherwise allocate based on seconds of use.	Core Network
	International switching Equipment	Direct to network components where possible, otherwise allocate based on seconds of use.	Core Network
	Switching equipment for special services networks	Direct to core network components where appropriate/required by regulation or to the specific services provided by other networks - e.g. data transmission switching equipment should be allocated directly to data transmission services.	Core Network, Other activities

[12] Commission Recommendation of 8 January 1998 on interconnection in a liberalised telecommunications market – Part 2 – Accounting separation and cost accounting (98/322/EC)

Category of assets and liabilities	Description	Method of Allocation	Principal Businesses
	Other switching equipment	Direct to network services where possible, otherwise allocate to other switching network components on the basis of the use of the equipment.	Core Network
Transmission equipment	Traffic-sensitive transmission Equipment	Direct to network components where possible, otherwise allocate based on the usage of circuits.	Core Network
	Cable and wire	Direct to access or network components where possible, otherwise allocate to components based on the amount of cable used to provide different services.	Local Access-Network, Core Network
	Local loop equipment	Direct to products where possible (e.g. separately identifiable ISDN access equipment), otherwise allocate between access services based on line usage.	Local Access-Network
	Radio and satellite equipment	Direct to network components where possible, otherwise allocate based on the usage of channels.	Core Network
	Transmission equipment for special services networks	Direct to the specific non-PSTN/non-ISDN services provided by the network - e.g. data transmission equipment directly allocated to data transmission services.	Core Network
	International/submarine cable	Direct to network components where possible, otherwise allocate based on usage.	Core Network

Category of assets and liabilities	**Description**	**Method of Allocation**	**Principal Businesses**
Other primary network assets	Special network plant	Plant and equipment that is used solely to provide one specific service should be allocated directly to the relevant services. Examples may include, Intelligent networks equipment; Data transmission equipment; Multimedia equipment.	Core Network Other activities
	Customer premises equipment	Direct to products and services.	Other activities
	Public payphones and related Equipment	Direct to service.	Retail
Support Plant	Ducting	Ducting can be allocated to the cable and wire that it supports and allocated to products in the same way as cable and wire.	Local Access-Network, Core Network
	Power equipment	Allocate to primary plant groups on the basis of the use of power equipment to support each plant- e.g. kilowatts per hour. Assets should then be allocated to products in the same way as the relevant primary plant groups.	Local Access-Network, Core Network
	Network management systems	Allocate to primary plant of the different networks provided on the basis of the use of the systems to support each plant - e.g. time spent to control local exchanges, tandem exchanges and international exchanges. Costs should be attributed to products and services in the same way as the related primary plant group.	Core Network

Category of assets and liabilities	Description	Method of Allocation	Principal Businesses
Non-network fixed assets	Land and buildings	Allocate to products, services and network components on the basis of the space occupied (i.e. floor space) to support each product, service or network component.	All
	General computers	Allocate to the applications run by the operator on the basis of the use of the computers to support each application. Costs allocated to applications can then be attributed to those products and services that they support.	All
	Motor vehicles	Allocate to the products and network components based on usage.	All
	Furniture and office equipment	Allocate to the products and network components based on usage.	All
Intangible fixed assets	Intangible fixed assets	Direct to products where possible. Any residual or unattributable assets will need to be allocated on an arbitrary basis, to be agreed with the NRA-	All
Working capital			
	Fixed asset investments:		
	Pure financial investments	Direct to "Other activities".	Other activities
	Investments in unrelated Activities	Direct to "Other activities".	Other activities

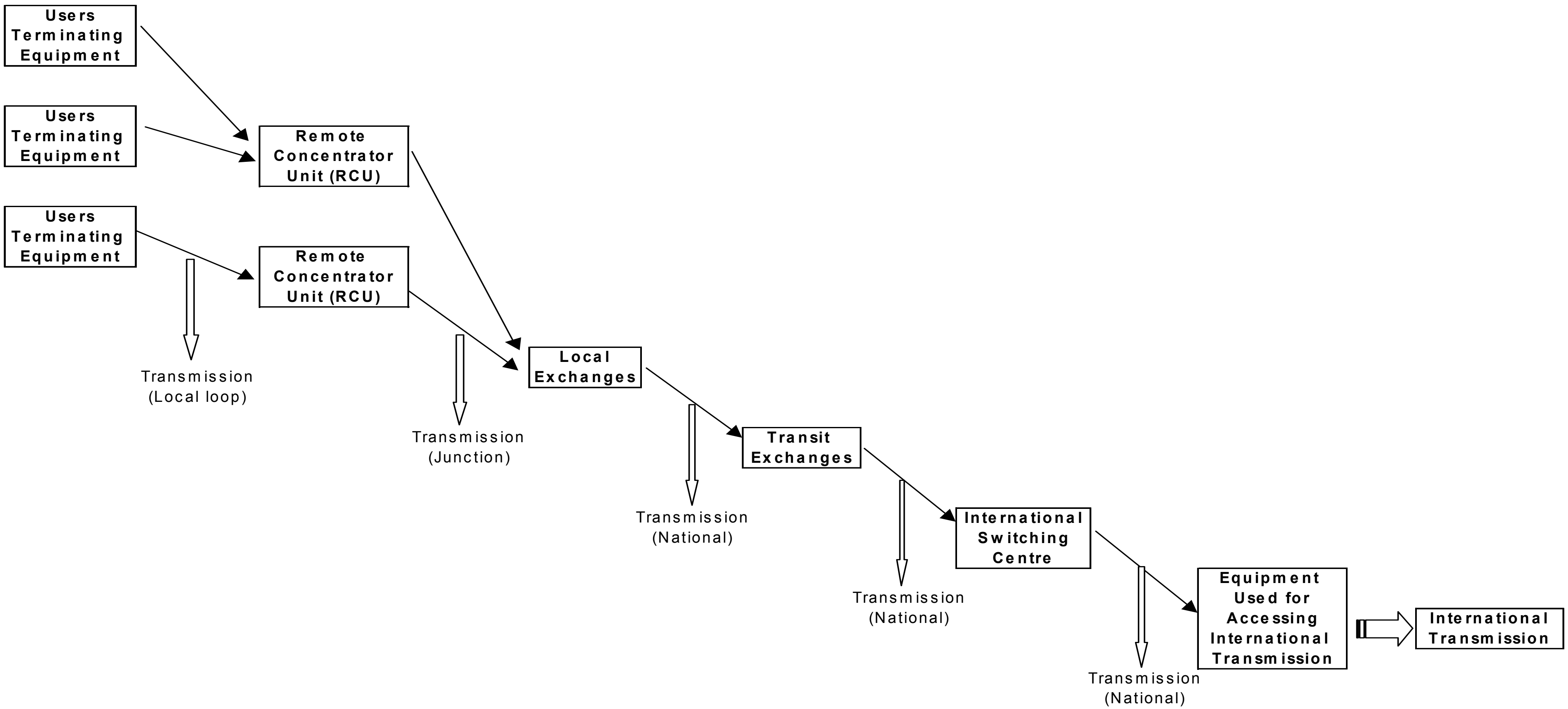
Category of assets and liabilities	**Description**	**Method of Allocation**	**Principal Businesses**
	Other investments	Direct to the services to which the investments are related, otherwise allocate based on usage.	All
	Short-term investments (including cash at bank and in hand)	Direct to businesses where possible, otherwise allocate based on the operational requirements of each business.	All
	Stocks	Stocks should be allocated directly to products and services.	All
	Trade debtors/receivables	Trade debtors may be allocated to products and services based on billing system information where possible. Unattributable balances will need to be allocated on an arbitrary basis, to be agreed with the NRA.	All
	Other debtors/receivables	Other debtors/receivables should be apportioned to products and services if possible. Unattributable balances will need to be allocated on an arbitrary basis, to be agreed with the NRA.	All
	Trade creditors	Trade creditors should be allocated directly to products and services if possible. Unattributable trade creditors will need to be allocated on an arbitrary basis, to be agreed with the NRA.	All
	Long term provisions	Direct to the activities that give rise to the provisions in question,	All
	Liabilities for taxation and Dividends	No allocation required. Instead average liabilities should be taken into account when considering the operational cash requirements of each business (see "Short-term investments")	All

Appendix V – Revenue Allocation[13]

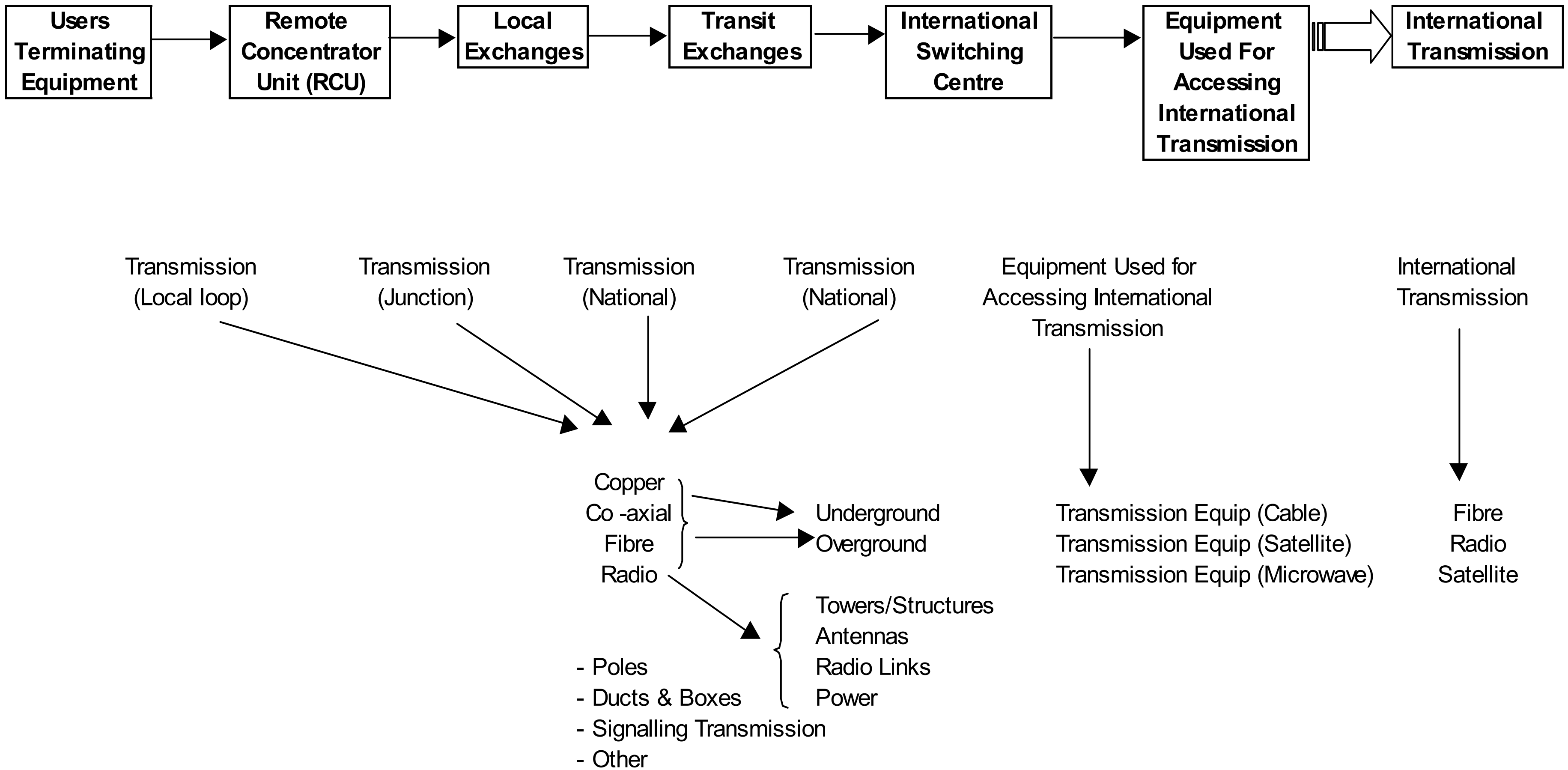
Connection charges	Charges for establishing new connections to the fixed telephone network (other than for establishing a point of interconnect) should be assigned to retail.
Customer line rental charges	Line rental charges should be assigned to retail.
Revenues from leased lines	Revenue from leased lines should be allocated to retail.
Revenues from line rental to other operators	Where provided to other market players, revenue from line rental of unbundled local loops should be assigned to local access network.
Access deficit contributions	In those Member States that operate access deficit schemes, access deficit contributions should be allocated to local access network.
Universal service contributions	In those Member States that operate schemes to finance universal service obligations, contributions from other operators should be allocated to retail.
Interconnection charges	Interconnection charges, including the one-off costs of establishing a point of interconnect and volume-related charges should be allocated to core network.
Call charges	Revenue from call charges should be allocated to the appropriate service within the retail business.
Equipment rentals and sales	Revenue from the rental and sale of equipment such as telephones and facsimile machines should be allocated to the appropriate services within 'other activities`.
Revenue from advertising in directories	Revenue received from advertising in directories should be allocated to a directory services account in 'other activities`.
Engineering services/consultancy	Revenue from engineering services/consultancy other than for interconnection should be allocated to 'other activities`.

[13] Commission Recommendation of 8 January 1998 on interconnection in a liberalised telecommunications market – Part 2 – Accounting separation and cost accounting (98/322/EC)

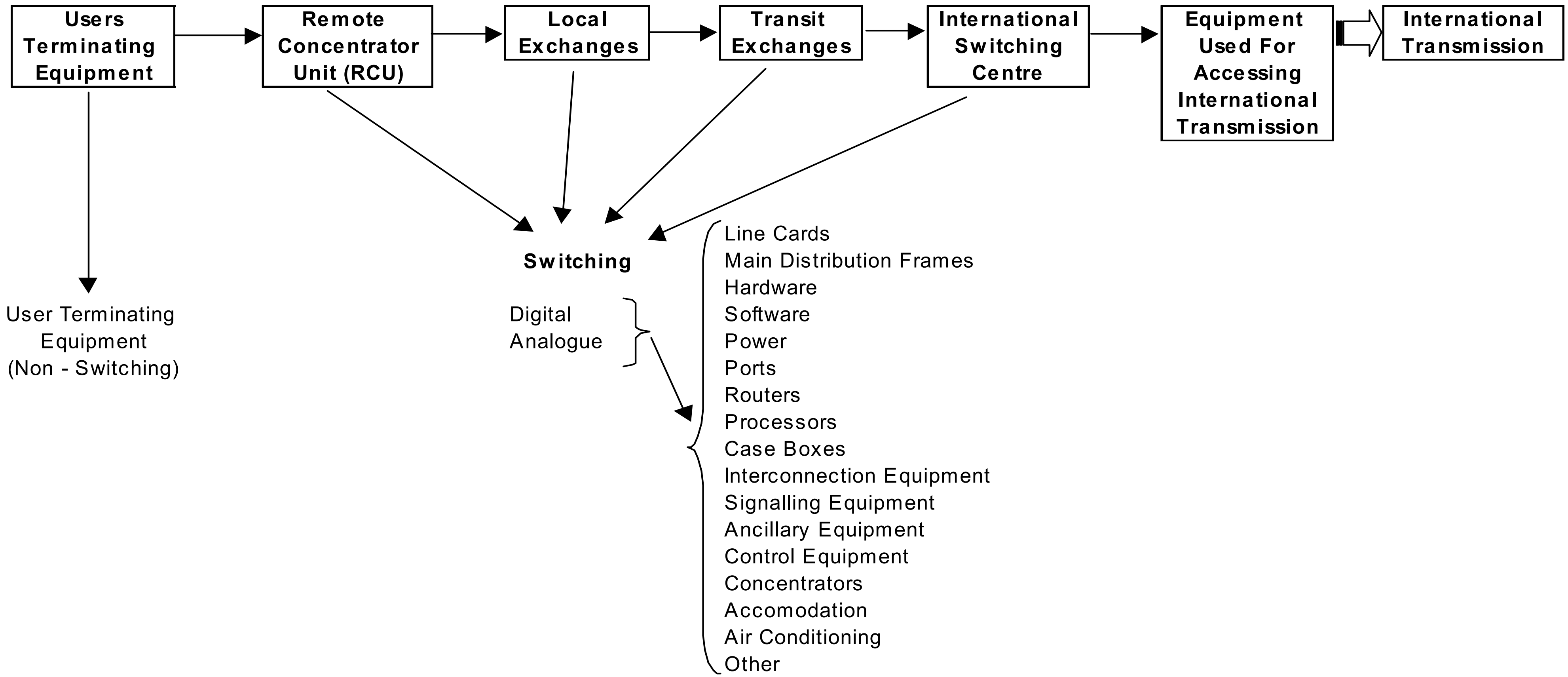
Appendix VI – Location of Fixed Assets in the PSTN Network



Appendix VII – Transmission Elements of PSTN Network



Appendix VIII - Switching Elements of PSTN Network



Appendix IX – Other Network Elements

The networks below will use transmission and switching processes similar to the PSTN, but because of technological change, different equipment will be used and as a result different asset lives may be appropriate.

Intelligent Networks

Service Control Point Equipment
Intelligent Peripheral Equipment
Switch Specific Equipment
Other

Lease Line Networks

Exchange Customer Interface Units
Cross Connect Equipment
Multiplex Equipment
Miscellaneous Equipment
Operator Support Systems
VPN Equipment
Modems
HDSL
Analogue Lease Line Equipment

Frame Relay Network

Frame Relay Equipment
Power Unit
Hardware
Software
Access Port
Network Switch
Management Centres

ATM

Multiplexers
Concentrators
ATM Cross Connect
ATM Switch

X.25 & X.28

Network elements used when signalling by X.25 & X.28 Protocols

Other Network Equipment

Cross Connect Equipment
A/D Conversion Equipment
Miscellaneous & Test Equipment
Concentrators
Multiplexors
Repeaters
ADSL & HDSL
Accomodation for the above
Other

Network Management Centres

Traffic Management Systems
Signalling Management Systems
Transmission Management Systems
Data Management Systems
Other

Billing Systems

Centralised Processing
- Hardware
- Software

Transmission

Switch Based Equipment
- Hardware
- Software

Other

Facilities Management
- Non Standard Equipment
- Internet Access

Operator Equipment
Capital Technical Research
Kiosks
Generators
Test Equipment

Appendix X – General Fixed Assets

Property

Land
General Buildings

Fixtures & Fittings

Owned
Rented

Information Systems

Hardware
Operating Software
Application Software
Office Equipment

Transport

Cars
Vans
Trucks
Mechanical Aids