

Guideline for System on Accounting Separation

List of Contents

S. No.	Contents
1.	Abbreviations
2.	Background & Context
3.	Executive Summary
4.	Framework for Accounting Separation
5.	Reporting Requirement
6.	Costing Approach
7.	Allocation and Attribution Method
8.	Books of Accounts
9.	Administrative Requirements
Annexures	
1.	Current Cost Accounting
2.	Allocation Method for Support Plants
3.	Allocation Method for Support Functions
4.	Allocation Method for Network Elements
5.	Allocation Method for Capital Employed
Glossary	

Abbreviations

BSO	Basic Service Operator
CCA	Current Cost Accounting
CMTS	Cellular Mobile Telecom Service
COSA	Cost of Sales Adjustment
CVR	Cost Volume Relationship
CWIP	Capital Work in Progress
DAMA	Demand Assignment Multiple Access
DSL	Digital Subscriber Line
FAC	Fully Allocated Cost
FCM	Financial Capital Maintenance

GBV	Gross Book Value
GL	General Ledger
GMPCS	Global Mobile Personal Communication Service
GPRS	General Packet Radio Service
HCA	Historical Cost Accounting
HCC	Homogeneous Cost Categories
ICAI	Institute of Chartered Accountants Of India
ICWAI	Institute of Cost and Works Accountants Of India
ILD	International Long Distance
IPLC	International Private Leased Circuit
ISDN	Integrated Service Digital Network
ISP	Internet Service Provider
LDCA	Long Distance Charging Area
LRAIC	Long Run Average Incremental Cost
LRIC	Long Run Incremental Cost
MEA	Modern Equivalent Asset
MSO	Mobile Service Operator
MWCA	Monetary Working Capital Adjustment
NBV	Net Book Value
NLD	National Long Distance
OASM	Operator-specific Accounting Separation Manual
OCM	Operating Capital Maintenance
PCO	Public Call Office
PMRTS	Public Mobile Radio Trunking Service
POTS	Plain Old Telephone Service
PSTN	Public Switched Telephone Network
RBI	Reserve Bank of India
RoCE	Return on Capital Employed
SAS	System on Accounting Separation
SDCA	Short Distance Charging Area
SMS	Short Message Service
SSA	Secondary Switching Area
TDMA	Time Division Multiple Access
TRAI	Telecom Regulatory Authority of India
VSAT	Very Small Aperture Terminal
WACC	Pre-Tax Weighted Average Cost of Capital
WLL	Wireless in Local Loop

Chapter-1

Background and Context of the System on Accounting Separation

1.1 1.1 An essential ingredient of any effective regulatory framework for infrastructure service like electricity, telecom or railways is the arrangement, which enables the system to generate accounting statements for regulatory and management purposes. This creates capabilities of analyzing costs, revenues and capital employed in major areas of an operator's business. Failure in designing appropriate accounting procedures is often one of the key reasons for not realizing the potential gains of restructuring the sector by opening it up to competition. Working out the cost of providing a particular service is, therefore, the first and most important step in creating a fair, transparent and just regulatory environment.

1.2 1.2 Financial reporting at the corporate/entity level presents aggregate information, which may not provide the Regulator with the details required for regulatory purposes such as:

- • measuring financial performance of products/network services and services;
- • monitoring licensees' returns on products/network services and services regulated with price ceilings;
- • identifying cross subsidization practices, which influence the profitability of any segments;
- • understanding the inter-operator arrangements in terms of their associated pricing and costs; and
- • monitoring the adequacy of access deficit charge payable by the contributing licensees.

- 1.3 1.3 The System on Accounting Separation (*hereinafter refer to as SAS*) is significant from the regulatory perspective in a multi-operator environment. The objective of Accounting Separation and Formats for Accounting/ Regulatory Statements is to make available to TRAI and managements the capability to analyze the costs, revenues and capital employed in major areas of a service provider's business. Accounting Separation facilitates the availability of more detailed information on costs on a regular basis with greater transparency.
- 1.4 1.4 Current capabilities of information and tools available to TRAI for purposes of tariff and cost analysis does not present a complete picture/scenario to allow TRAI to effectively carry out its mandated tasks. During tariff-rebalancing exercise of 1999 and subsequent efforts aimed at establishing a cost-based tariff regime for telecom tariffs in India, lack of information base for determining cost-based charges proved to be a major hindrance. The process of aggregating information provided by service providers had its limitation for the purpose of tariff and cost analysis. Thus was felt the need for a more detailed and disaggregated information.
- 1.5 1.5 **The TRAI Act 1997, as amended by the TRAI (Amendment) Ordinance 2000, mandates that every service provider shall maintain such books of account or other documents as may be prescribed [Refer Section 12 (3)]. The Central Government may, by notification, make rules prescribing the category of books of account or other documents, which are to be maintained (Refer Section 35 (2)(d)). The SAS constitutes the guidelines to be followed by the service providers in maintaining their Books of Account.**
- 1.6 1.6 In accordance with its established practice, the Authority initiated a public consultative practice, with the release of a consultation paper on May 4, 2000 on "Accounting Separation and Formats for Accounting/Regulatory Statements". Open house sessions were also conducted on the subject in Delhi, Mumbai, Kolkota and Chennai between July 27 and August 28, 2000. The

- consultation process was expected to result in formation of the Accounting Manual that would prescribe TRAI's requirements with respect of SAS and reporting practices to be adhered to by the licensees for enabling the Authority to meet its regulatory objectives.
- 1.7 1.7 In the light of above, TRAI commissioned a study to establish a system for generation of Accounting Statements by service providers in the telecom segment for regulatory and management purposes. On the basis of the study, a Draft SAS containing the conceptual framework of the Accounting Separation and Reporting and detailed formats for Accounting Separation was circulated amongst all major service providers with a view to eliciting comments from them. To explain the conceptual framework and to provide clarifications in this regard, TRAI organised five different presentations for BSNL and MTNL, VSNL, ABTO, COAI and ISPAI. A number of comments were received on substantive and procedural issues, which included applicability of Accounting Rules, time frame for implementation of SAS, Costing Approaches and Cost Allocation Principles, Audit requirements, extent of Geographical Separation, Product/network service-wise separation and other aspects relevant to implementation of Accounting Separation. **All such inputs have been taken into consideration while finalising the SAS.**
- 1.8 1.8 The SAS would provide the basis for an "Operator-specific Accounting Separation Manual (OASM)" to be prepared by each service provider. The OASM would contain operator specific detailed procedures for implementation of the Accounting Separation and Reporting requirements mentioned in the SAS. **Details of the prescribed system have been discussed in subsequent chapters.**
- 1.9 1.9 It is well understood and appreciated that accounting system currently being followed by the operators may require changes/ up-gradation to meet the envisaged SAS and reporting requirements. However an endeavour has been made to follow the existing accounting practices and standards to the extent possible to minimise the changes. (After the corporatisation of the Department of

Telecom Services, all the operators are governed by the Companies Act, 1956, accounting standards issued by the Institute of Chartered Accountants of India (ICAI) and generally accepted accounting practices and principles.)

- 1.10 1.10 The reporting to TRAI does not in any manner replace the present accounting and reporting requirements under any other statute.

Chapter - 2

Summary of the System on Accounting Separation

- 2.1 2.1 The TRAI Act 1997, as amended by the TRAI (Amendment) Ordinance 2000, mandates that every service provider shall maintain such books of account or other documents as may be prescribed [Refer Section 12 (3)]. The Central Government may, by notification, make rules prescribing the category of books of account or other documents, which are to be maintained (Refer Section 35 (2)(d)).
- 2.2 2.2 The SAS constitutes the set of guidelines to be followed by the service providers in maintaining their Books of Account. The SAS and Reporting requirements have been discussed at length in the succeeding chapters; however, a summary is given in the succeeding paras.
- 2.3 2.3 **Applicability** - All the companies, which are engaged in one or more of the following telecommunication activities, are required to separate their accounts in the manner discussed in the SAS.
- • Basic Telephone Service
 - • Fixed Telephone service
 - • Limited Mobility service
 - • National Long Distance Service
 - • International Long Distance Service

- • Cellular Mobile Telephone Service
- • Very Small Aperture Terminal Service (VSAT)
- • Radio Paging Service
- • Public Mobile Radio Trunk Service (PMRTS)
- • Global Mobile Personal Communication Service (GMPCS)
- • Internet Service

The framework of Accounting Separation has been discussed in Chapter 3. It is pertinent to note that detailed Accounting Separation has been prescribed for integrated service providers, whereas considering the cost of Accounting Separation, a much simpler framework for Accounting Separation has been prescribed for companies providing services in single circle or city and those companies providing services like Radio Paging, PMRTS, GMPCS, VSAT.

2.4 2.4 **Schedule for implementation of Accounting Separation** - Every company, required to implement SAS, shall, in respect of each of its financial year commencing on or after the date of notification the rules for implementation of SAS.

2.5 2.5 **Framework for Accounting Separation** – The accounts have to be separated in the following segments:

- • **Type of Operating License/Service** - The accounts have to be separated for each telecom service. This separation has been prescribed to measure financial performance of individual services and to identify Cross Subsidization, if any, across services.
- • **Geographical Area** – Department of Telecommunication (DoT) has issued licenses to the telecom service providers mostly geographical area-wise. To review and compare results across licensed areas, this form of Accounting Separation has been prescribed.

- • **Product/Network service** – The term “product/network service” for Accounting Separation means a service within a licensed service, which is priced or regulated separately. The separation of accounts of products/network services is required, to make transparent the costs involved in the provision of that product/network service.
- • **Network Cost** – Separation of network cost has been prescribed to unbundle **cost** of network elements. Unbundled cost of network elements provides the basis to study the cost of interconnection arrangement and also provides inputs for cost-based tariffs.

2.6 2.6 **Reporting Requirements** – Every company, implementing SAS, shall submit following statements, in the manner laid down in part II of guidelines on SAS.

S. No.	Information
1	A statement, showing profit and loss account for a geographical area.
2	A statement, showing product/network service wise profit/loss account
3	A statement, showing network element wise total cost and cost per unit of usage.
4	A statement showing allocation of network cost (network element wise) to various products/network services.
5	A statement showing total network cost allocated to various products/network services.
6	A statement showing capital employed in a geographical area.
7	A statement showing allocation of capital employed to various network elements.
8	A statement showing category wise fixed assets and depreciation.
9	A statement showing category wise fixed assets and depreciation for each network element.
10	A statement showing category wise fixed assets and depreciation for other profit centre and cost centres.

S. No.	Information
11	A statement showing reconciliation of service wise profit and loss account with the company's profit and loss account.
12	A statement on non-financial information relating to tariff, revenue, network, traffic etc.

2.7 2.7 **Periodicity of Report Submission** - Accounting Separation Statements shall be submitted to TRAI on an annual basis. The reporting period would be the same as being followed by the operators for preparing the Annual Financial Accounts under the Companies Act, 1956. In case, the above reporting period consists of more than 12 calendar months but does not exceed 15 months, a break-up of the results for the 12 months and the balance period is not required. In case the reporting period exceeds 15 months, break up of the results into 12 months and the balance period is required for reporting to TRAI. The operators are required to submit the reports within 6 months of the accounting year-end.

2.8 2.8 **Cost Accounting Concept** - Historical Cost Accounting is the conventional Accounting Method, wherein assets are valued and depreciated at the cost recorded at the time of their purchase. The Current Cost Accounting Methodology prescribes valuation of assets and liabilities at current costs. As per the Indian Accounting Standards, preparation of accounts under CCA is not mandatory. However, in the context of telecom industry, where cost trends rapidly leave historic accounts out of step with current realities, Current Cost Accounting is considered to be more relevant for analyzing costs and revenues. In view of this, the **Accounting Separation Statements would have to be generated on the Historical Cost as well as the Current Cost basis. It is well understood that implementation of CCA involves extensive revaluation exercise. Preparation of CCA adjustments require detailed inputs in terms of description of assets, capital asset costs, age profile of assets, etc. In view of the above;**

- • **Accounting Separation will be initiated on Historical Cost Accounting basis. However, the operators would have to gear up their systems and create necessary database so as to follow CCA within a period of 2 years. During this period, Accounting Separation on historical base has to be stabilized.**
- • **In order to minimize the efforts involved in CCA, it is proposed that reporting on CCA basis will be done every second year unlike reporting on HCA basis, which will be done every year.**
- • **CCA will be followed by those operators who have been in the operations for more than 3 years.**

2.9 2.9 **Weighted Average Cost of Capital** – Fixed Assets have an Opportunity Cost in terms of interest or return that could have been earned if the initial amount was invested in a financial asset of equivalent risk. Therefore, operators are to be given a rate of return for fixed assets in order to justify its acquisition. This Required Rate of Return for Accounting Separation will be taken as pre-tax Weighted Average Cost of Capital (WACC). Mathematically,

$$\text{Pre Tax WACC} = \frac{R_e * \omega_1}{(1-T)} + R_d * \omega_2$$

where,

R_d = Cost of debt

R_e = Cost of equity capital

T = Corporate Tax rate

ω_1 = *proportion of equity in capital structure*

ω_2 = *proportion of debt in capital structure*

and $\omega_1 + \omega_2 = 1$

The Cost of Capital is to be proportionately added to the network elements to work out overall cost of network elements. TRAI may prescribe appropriate value of Cost of Capital from time to time.

2.10 **Books of Account** – The licenses to provide telecom services have been issued to only those companies, which are registered under the Companies Act, 1956. Therefore, all licensed telecom operators are required to maintain Books of Account prescribed under Section 209 of the Companies Act, 1956. In addition, they are also maintaining Books of Account and financial records as per the generally followed Accounting Practices. By and large, these records would form the underlying records for Accounting Separation. However, to accommodate specific requirements of the SAS, certain additional information may have to be maintained and may require changes in formats in the existing records. These changes required in existing records are discussed below:

a. **Fixed Asset Records** - The following additional information need to be captured in the fixed asset register to facilitate the accounting separation exercise:

- • The assets register be maintained geographical area wise for each service, for example circle wise asset records in case of a basic service operator.
- • Within a geographical area, separate sections would have to be maintained for each network element. This would help in determining total capital cost of a particular network element. For example optical fiber cable will have to be mapped to network element for which it is used such as local exchange to local exchange, transmission between local exchanges to transit switch, or for providing access to the subscribers.
- • Each asset record would have to be kept within the section for a network element to facilitate any split/merger of network elements in future.
- • In case an item is used for more than one element/cost centre, the same would have to be identified in the register.
- • The cost of up-gradation or subsequent additions/deletion to the existing equipment would have to be tracked with the original cost. The details pertaining to the date of addition, nature of addition, etc. would have to be recorded in respect of the additions.
- • For common assets such as land and building, etc. details of the network elements / department using the assets along with proportion of use would have to be maintained.

- b. **Costing Approach** - In order to generate accounting separation reports, the operators would need to have an appropriate costing system in place, which would enable generation of prescribed reports. The non- financial data required for attribution of costs would also have to be maintained. Based on the costing system, the revenue, costs, assets, liabilities or any other information maintained in financial records would have to be attributed, allocated or apportioned to various profit centers and cost centers, which is discussed in chapter 6.
- 2.11 **Operator-specific Accounting Separation Manual** – Principles for Allocation and Attribution of Cost and Revenue have been discussed in detail. To implement SAS, each operator would be required to prepare an Operator- specific Accounting Separation Manual. OASM would give description of procedure that would have to be followed to implement the Accounting Separation and reporting requirements. OASM would have to contain a comprehensive and complete documentation of the policies, principles and methodologies that the operators would follow in preparing the Accounting Separation reports. The manual would have to be prepared and filed with TRAI within three months after the necessary rules have been issued by the Central Government.
- 2.12 **Confidentiality** - TRAI would use the information provided by the Operators for its regulatory duties and limit the disclosure of such information to its staff and advisors/consultants as considered necessary. TRAI may however disclose full/part of the information only if it is considered necessary in public interest. However, before making public any confidential information, an opportunity would be given to the Operators for raising objections to such public disclosure. TRAI may however overrule such objections if considered necessary in the public interest.
- 2.13 **Audit** - The reports to be submitted to TRAI would need to be audited by an independent auditor. The auditor would be appointed by the Operator who is a practising member of the Institute of Chartered Accountants of India (ICAI) and

is eligible to be appointed as statutory auditor under the Companies Act, 1956 or any member of the Institute of Cost and Works Accountants of India (ICWAI) who is eligible to be appointed as cost auditor under the Companies Act, 1956. The existing auditor who is appointed by a service provider under the provisions of section 224 and 225 of the Companies Act, 1956 shall also be entitled to audit statements to be submitted to TRAI. The auditor in his report shall express his opinion on the following:

- • Whether the accounting separation statements for the reporting period have been properly drawn up in accordance with the rules and guidelines issued by TRAI on SAS.
- • Whether he has received all information and explanations necessary for the purpose of audit.

2.14 2.14 The reporting to TRAI does not in any manner replace the present accounting and reporting requirements under any other statute.

Chapter-3

Framework for Accounting Separation

3.1 3.1 In this chapter framework of Accounting Separation has been discussed in detail, which requires the accounts to be separated into following segments:

- • Type of Operating License/Service
- • Geographical area
- • Separation of Network Cost from other than Network Costs

- • Product/network service

License/Service-wise Separation:

-
- 3.2 3.2 This separation has been prescribed to measure financial performance of individual services and to identify cross-subsidisation across services. The results from this separation provide an indication year-over-year of the service provider's financial performance within each of the service.
- 3.3 3.3 The accounts should be separated for each of the following telecommunication services:
- • Basic Telephone Service (including those provided using Wireless in Local Loop)
 - ○ Fixed Line service
 - ○ Limited Mobility service
 - • National Long Distance Service (NLD)
 - • International Long Distance Service (ILD)
 - • Cellular Mobile Telephone Service (CMTS)
 - • Very Small Aperture Terminal Service (VSAT)
 - • Internet Service
 - • Radio Paging Service (Paging)
 - • Public Mobile Radio Trunk Service (PMRTS)
 - • Global Mobile Personal Communication Service (GMPCS)
 - • Other telecommunication services
- 3.4 3.4 If the company is engaged in any activity, which cannot be classified as a telecommunication service, the particulars relating to utilization of material, labour and other items of cost in so far as they are applicable to such other activities shall not be included in the activities referred to in para 3.3 above.

-

Geographical, Network-Elements and Products/Network Services Separation:

3.5 3.5 The licenses have been issued for telecom services geographical area-wise. For example, Licenses for Basic Telecom Service have been issued for telecom circles and for two metro cities, whereas for Cellular Mobile Telephone service, these have been issued for telecom circles and for metro cities. To review and compare the results, across licensed areas, geographical Accounting Separation has been prescribed.

-

3.6 3.6 The term “product/network service” for Accounting Separation means a sub-service within a licensed service, which is priced or regulated separately. The separation of accounts for product/network service is intended to make transparent the costs involved in the provision of that product/network service and also to distinguish these costs from those network costs that relate to the provision of interconnect services.

-

3.7 3.7 Once the conceptual framework for Accounting Separation has been defined, there is need to specify classification and assignment guidelines to translate the conceptual framework into an operational costing system. The separation of network cost from other than network costs has been prescribed to provide a base for allocation of common network amongst services/products/network services. It also provides a basis to study the cost of interconnection arrangement and inputs for cost-based tariffs.

-

-

3.8 3.8 The accounts within each service should be further separated for geographical segmentation of network elements and products/network services. This should be done in the manner defined in subsequent paragraphs.

-

3.9 3.9 To un-bundle cost of network elements, various network architectures and technologies were studied and following observations were made:

- • There may be variations in the network architecture/ technology and the network elements used by different operators for a same service. These variations have been addressed to an extent by grouping the network elements as per the process flow of call origination, conveyance and termination. This helps to address the issue of grouping of network elements irrespective of their type, size or technology.
- • For an integrated operator, for certain set of services, networks are integrated with each other. In such cases, network elements have been identified to different services as per the boundaries defined in the respective licenses. Further in case of an integrated operator providing basic services and NLD services, since the intra-circle network elements can be used for both Basic Telephone and NLD Services, cost of the intra-circle network would need to be apportioned between these two services.

3.10 3.10 The network elements defined later in the Guidelines assume certain network design. Therefore these network elements may not be fully relevant/ applicable to all the operators. Keeping in view the principles followed above to define the network elements, each operator would need to work out the specific network elements as relevant to its network architecture.

3.11 3.11 With respect to the products/network services, SAS is prescribed for the main products/network services for reporting to TRAI. The balance products/network services if any should be grouped under a residual head – ‘Others’.

-

3.12 3.12 SAS for Geographical Area, Network Elements and **Products/Network Services** for services mentioned in para 3.2 have been individually discussed below.

-

Basic Telephone Service:

-

3.13 3.13 Accounting Separation is to be done for segments within Basic Telephone Service as defined in Table 3.1 given below.

Table 3.1

S. No.	Basic Telephone Service Segments	Description
1	Geographical Separation	Separate Accounts are to be generated for each licensed area like metro city and Telecom circle.
2	Network Cost Separation	For each geographical area defined above, network cost is to be separated network element-wise. A network cost statement should be prepared for this purpose. Network cost may be reported network element wise, as per the network elements defined later in Table 3.2. The cost of network should be allocated/ apportioned to the products/network services in proportion of their usage of network.
3	Product/network service wise Separation	For each geographical area defined above, the profit and loss statement is to be prepared product/network service wise. The various products/network services have been defined below under serial number 3.1 and 3.2.
3.1	Product/network service wise separation	<p>The accounts should be separated into following products/network services</p> <ul style="list-style-type: none"> • • PSTN <ul style="list-style-type: none"> ▪ Access Rental ▪ Local ▪ Intra-circle ▪ NLD ▪ ILD • • WLL (Limited Mobility)

S. No.	Basic Telephone Service Segments	Description
		<ul style="list-style-type: none"> ▪ ▪ Rentals ▪ ▪ Local ▪ ▪ Intra-circle ▪ ▪ NLD ▪ ▪ ILD • • WLL (Fixed) <ul style="list-style-type: none"> ▪ ▪ Rentals ▪ ▪ Local ▪ ▪ Intra-circle ▪ ▪ NLD ▪ ▪ ILD • • Leased circuits • • Wholesale (Interconnection) <ul style="list-style-type: none"> ▪ ▪ MSO to BSO ▪ ▪ WLL to BSO • • Others (to cover the balance products/network services)

3.14 3.14 The network element for reporting the network cost may be as given below in table 3.2:

Table 3.2

Network	Network elements
---------	------------------

Network	Network elements
PSTN Access	<p>Copper loop</p> <p>(This would include Drop wire or internal wiring, Distribution point, Pillar, Cabinet, Transmission –cables, and Main distribution frame)</p>
	<p>ISDN</p> <p>(This would include Terminal adapters, Network termination device, Line termination equipment and Exchange termination equipment)</p>
	<p>POTS</p> <p>(This would include customer premises apparatus PCO terminal, Exchange line card / RLU, other non traffic sensitive equipment and Remote Switching Unit (RSU), Digital Loop Carrier (DLC) etc.)</p>
	<p>Bulk subscribers (including DID trunk)</p>
	<p>VPT equipment</p> <p>(This would include Micro wave equipment, MARR equipment, Satellite base equipment)</p>
<p>-</p> <p>Hierarchical architecture</p>	
<p>Short distance charging area (SDCA) network</p>	<p>Switches</p> <ul style="list-style-type: none"> • • Local exchange (except line card) • • SDCC transit switch / Local cum transit switch

Network	Network elements
	<p>Transmission media and equipment</p> <ul style="list-style-type: none"> • • RSU to Local Exchange Transmission Link • • Local exchange to local exchange link • • Exchange to transit switch. • • Interconnection link
Network	Network elements
Intra-circle long distance network	<p>Switches</p> <ul style="list-style-type: none"> • • Trunk automated exchange level two (TAX 2)
	<p>Transmission media and equipment</p> <ul style="list-style-type: none"> • • Transit switch to Transit switch link • • Transit switch to TAX II link • • TAX II to TAX II link • • TAX II to TAX I link • • Interconnection link

National Long Distance (NLD)

3.15 3.15 Within NLD service, accounting separation should be done for the segments defined in the table given below:

Table 3.3 – NLD

Segment	Description
Geographical separation	The accounting statements should be prepared for the Nation as whole
Network Cost Separation	Network cost is to be separated network elements wise. Further split of the network cost into circle level network and others is required to be done. A network cost statement should be prepared for this purpose. The

	illustrative list of network elements is provided in Table 3.4. The cost of network should be allocated/apportioned to the products/network services in proportion of their usage of network.
Product/network service wise Separation	Accounts should be separated into the following products/network services: <ul style="list-style-type: none"> • • Call charges <ul style="list-style-type: none"> ▪ ▪ Intra- circle ▪ ▪ NLD ▪ ▪ ILD • • Leased circuits • • Others <p>Note: Products/Network Services mentioned under call charges shall be separated under two categories of Toll Quality and Below Toll Quality when made applicable.</p>

3.16 3.16 The network elements for reporting the network cost should be as given below in Table 3.4.

Table 3.4 – NLD Network Elements

Network	Network elements
SDCA to LDCA	<ul style="list-style-type: none"> • • Transmission media (This would include Optical fibre, radio systems etc.) • • Transmission equipment • • Other assets

Network	Network elements
LDCA to LDCA	<ul style="list-style-type: none"> • • Switching equipment (Tax level 1) • • Switching equipment – other • • Transmission media (This would include optical fibre, co axial cable, micro wave etc) • • Transmission equipment • • Other assets

3.17 3.17 In the case of an integrated operator, the intra circle network may be common for the basic services as well as long distance services. For the purpose of accounting separation, the intra-circle network should be considered initially as a part of the basic services as defined in the earlier paragraphs. The cost of the common circle level network should be transferred to the long distance services based on usage.

3.18 3.18 NLD operators are required to interconnect at the SDCA level and can also carry intra circle calls by mutual agreement. Therefore, the circle wise network elements that carry intra-circle traffic would also need to be identified separately.

International Long Distance (ILD)

3.19 3.19 Within ILD service, accounting separation should be done for the segments as defined in the table given below:

Table 3.5 – ILD

Segment	Description
Geographical separation	The accounting statements should be prepared for the Nation as whole.
Network Cost Separation	Network cost is to be separated network element wise. A

Segment	Description
	network cost statement should be prepared for this purpose. The illustrative list of network elements is provided in Table 3.6. The cost of network should be allocated/ apportioned to the products/network services in proportion of their usage of network.
Product/network service wise Separation	The accounts should be separated into the following products/network services: <ul style="list-style-type: none"> • • ILD services – Toll Quality • • ILD services – Below Toll Quality • • Leased circuits • • Others

3.20 3.20 The network elements for reporting the network cost should be as given below in Table 3.6.

Table 3.6 – ILD Network

Network	Network elements
Transmission	Transmission – domestic
	Transmission – International (This would include transmission equipment, satellite linkage, submarine cable etc.), region wise.
Switching	<ul style="list-style-type: none"> • • Circuit Switching
	<ul style="list-style-type: none"> • • Others (including Server, Router etc.)

Cellular Mobile Telecom Service (CMTS)

3.21 3.21 Within CMTS, accounting separation should be done for the segments as defined in the table 3.7 given below:

Table 3.7 – CMTS

Segment	Description
Geographical separation	Separate reports are to be generated for each of licensed area like metro city, telecom circle.
Network Cost Separation	Network cost is to be separated network elements wise. A network cost statement should be prepared for this purpose. The illustrative list of network elements is provided in Table 3.8. The cost of network should be allocated/ apportioned to the products/network services in proportion of their usage of network.
Product/network service wise Separation	<p>It is proposed to separate the accounts into the following products/network services:</p> <p>Retail segments:</p> <p>Post paid</p> <ul style="list-style-type: none"> • • Airtime • • Rental • • Roaming • • SMS • • GPRS • • Others <p>Pre paid</p> <ul style="list-style-type: none"> • • Airtime • • Rental • • Roaming • • SMS • • GPRS • • Others

3.22 3.22 The network elements for reporting the network cost should be as given below in Table 3.8.

Table 3.8 – CMTS Network

Network	Network elements
Core network	Radio network (This should include elements from subscriber to MSC i.e. Base Switching Centre, Base Transceiver Station, Transmission Links – BSC – MSC, BTS – BSC) Rest of network (This should include MSC, MSC- MSC links, MSO to NLDO links, MSO to BSO links and MSO to ILDO links)
Dedicated network	<ul style="list-style-type: none">• • SMS server• • GPRS Networking• • Others

Very Small Aperture Terminal (VSAT)

3.23 3.23 Within VSAT, accounting separation should be done for the segments as defined in the table 3.9 given below:

Table 3.9 – VSAT

Segment	Description
Geographical separation	Separate reports are to be generated for each 'license area'. No further geographical break up is required within the license area.

Segment	Description
Network Cost Separation	Network cost is to be separated network element wise. A network cost statement should be prepared for this purpose. The illustrative list of network elements is provided in Table 3.10. The cost of network may be allocated/ apportioned to the products/network services in proportion of their usage of network.
Product/network service wise Separation	It is proposed to separate accounts into VSAT service and hardware sale.

3.24 3.24 The network elements for reporting the network cost should be as given below in Table 3.10.

Table 3.10 – VSAT Network

Network	Network Elements
Space segment	Transponder
Ground segment	<ul style="list-style-type: none"> • • TDMA • • Hub • • Antenna • • Others
	<ul style="list-style-type: none"> • • DAMA • • Hub • • Antenna • • Others

Internet Service Provider (ISP)

3.25 3.25 Within ISP, accounting separation should be done for the segments as defined in the following table:

Table 3.11 – ISP

Segment	Description
Geographical separation	Separate reports are to be generated for each license area i.e. City / State level/ Nation as applicable
Network Cost Separation	Network cost is to be separated network elements wise. A network cost statement should be prepared for this purpose. The illustrative list of network elements is provided in Table 3.12. The cost of network should be allocated/ apportioned to the products/network services in proportion of their usage of network.
Product/network service wise Separation	<p>Profit and loss statement is to be broken into the following products/network services:</p> <ul style="list-style-type: none"> • • Dial up <ul style="list-style-type: none"> ▪ ▪ PSTN dial up ▪ ▪ ISDN dial up • • Dedicated <ul style="list-style-type: none"> ▪ ▪ DSL ▪ ▪ Wireless ▪ ▪ Leased line ▪ ▪ Cable • • Application services <ul style="list-style-type: none"> ▪ ▪ Voice services ▪ ▪ Others (which would include web hosting, web server, etc.)

3.26 3.26 The network elements for reporting the network cost should be as given in Table 3.12.

Table 3.12 – ISP Network

Network	Network Elements
Central Network	<ul style="list-style-type: none">• • International gateway• • Shared Network Resources
Node	<ul style="list-style-type: none">• • Joint node network elements• • Dedicated node network elements
Access Connectivity	<ul style="list-style-type: none">• • DEL /E1R2 (PSTN) connectivity and network charges• • Local loop leased line charges• • (ISDN) connectivity and network charges• • DSL connectivity and network charges• • Cable connectivity / charges• • Wireless network / charges• • Others

Radio Paging Service (Paging)

3.27 3.27 A simplified approach is prescribed for paging services. In this case network and product/network service wise separation is not required. Within paging, accounting separation should be done for the segments as defined in the table given below:

Table 3.13 – Radio Paging Network

Segment	Description
Geographical separation	Separate reports are to be generated for each license area, i.e. City / State level as applicable.

	No further geographical break up is required within the license area.
Network Cost Separation	No separation of network elements is proposed.
Product/network service wise Separation	No product/network service-wise separation of accounts is proposed.

Public Mobile Radio Trunking Service (PMRTS)

3.28 3.28 A simplified approach is prescribed for PMRTS services also. In this case network and product/network service wise separation is not required. Within PMRTS, accounting separation should be done for the segments as defined in the table given below:

Table 3.14 – PMRTS Network

Segment	Description
Geographical separation	Separate reports are to be generated for each license areas i.e. metro service area / other city service area/ service area along the highway as applicable. No further geographical break up is required within the license area.
Network Cost Separation	No separation of network elements is proposed.
Product/network service wise Separation	No product/network service-wise separation of accounts is proposed.

Global Mobile Personal Communication Service (GMPCS)

- 3.29 3.29 A simplified approach is prescribed for GMPCS services. In this case, network and product/network service wise separation is not required.
- 3.30 3.30 Within GMPCS, accounting separation should be done for the segments as defined in the table given below:

Table 3.15 – GMPCS

Segment	Description
Geographical separation	Reports are to be generated for the license area. No further geographical break up is required within the license area.
Network Cost Separation	No separation of network elements is proposed.
Product/network service wise Separation	No product/network service-wise separation of accounts is proposed.

Chapter – 4

Reporting Requirement

- 4.1 4.1 In this chapter, various statements on Accounting Separation, which are required to be submitted by Telecom Service Providers to TRAI, are enumerated. The company should submit the following statements to TRAI, geographical area wise for each of the services mentioned in para 3.3 of Chapter 3:

Statement	Information
Service-wise (for a geographical area)	
Profit & loss account	
Profit & loss account – Total	A statement, showing profit and loss account for a geographical area.
Profit & loss account – product/network service wise	A statement, showing product/network service wise profit/loss account.
Network cost sheet	
Network element wise cost – summary sheet	A statement, showing network element wise total cost and cost per unit of usage.
Statement of allocation of Network cost to products/network services	A statement showing allocation of network cost (network element wise) to products/network services.
Product/Network Service wise network cost – Summary sheet	A statement showing total network cost allocated to various products/network services.
Statement of capital employed	
Statement of capital employed	A statement showing capital employed for a geographical area.
Statement of capital employed for network elements	A statement showing allocation of capital employed to various network elements.
Fixed assets	
Fixed assets statement and accumulated depreciation statement – Total for a geographical	A statement showing assets category wise fixed assets and depreciation.
Fixed assets statement and accumulated depreciation statement – Network	A statement showing assets category wise fixed assets and depreciation for each network element.
Fixed assets statement and accumulated depreciation statement – Others	A statement showing assets category wise fixed assets and depreciation for other profit centre and cost centres.
Others	
Reconciliation statement	A statement showing reconciliation of service wise profit and loss account with the company's profit and loss account.

4.2.4.2 In addition to the above-mentioned financial statements, non-financial information relating to tariff, revenue, network, traffic etc. are also required for meaningful analysis of the financial results. Therefore, statements on non-financial information should be reported by the service providers in formats given in the Part II of the guidelines on SAS.

Periodicity of Statement submission

4.3 4.3 Accounting Separation Statements should be submitted to TRAI on an annual basis. The reporting period would be the same as being followed by the company for preparing the Annual Financial Accounts under sub-section (4) of Section 210 of the Companies Act, 1956.

4.4 4.4 In case, the above reporting period consists of more than 12 calendar months but does not exceed 15 months, a break-up of the results for the 12 months and the balance period is not required. In case the reporting period exceeds 15 months, break up of the results into 12 months and the balance period is required for reporting to TRAI.

4.5 4.5 The operators are required to submit the statements within 6 months of the accounting year-end.

Formats of Statements

4.6 4.6 The formats of the Accounting Separation Statements, which have been discussed above are in Part II of the SAS. The Formats have been divided into 10 Schedules as per the following details:

Services	Schedule
Basic (including WLL)	1
National Long Distance (NLD)	2
International Long Distance (ILD)	3
Cellular Mobile Telecom Service (CMTS)	4
Very Small Aperture Terminal (VSAT)	5
Internet Service Provider (ISP)	6
Radio Paging Service (Paging)	7

Services	Schedule
Public Mobile Radio Trunk Service (PMRTS)	8
Global Mobile Personal Communication Service (GMPCS)	9
Reconciliation Statement	10

Chapter – 5

Costing Approach

5.1 In this chapter, the costing approach, that is to be followed for Accounting Separation is discussed. The Accounting Methodologies to derive cost base and cost allocation principle include the following:

- **Cost Base** – Historical Cost Accounting (HCA) or Current Cost Accounting (CCA)
- **Cost Allocation Principle** – Fully Allocated Cost (FAC) or Long Run Incremental Cost (LRIC)

Cost Base

5.2 HCA is the conventional Accounting Method, wherein assets are valued and depreciated at the cost recorded at the time of their purchase. The CCA methodology prescribes valuation of assets at current costs. As per the Indian Accounting Standards, preparation of accounts under CCA is not mandatory. However, in the context of telecom industry, where cost trends rapidly leave historic accounts out of step with current realities, CCA is considered to be more relevant for analyzing costs and revenues. In view of this, **Accounting Separation Statements shall be generated on Historical Cost as well as on Current Cost basis.**

5.3 There are two alternative approaches to CCA, which differ in their treatment of “capital maintenance”. Capital maintenance means the manner in which capital of the company is viewed for determining the profit. This issue is of greatest importance for the determination of profits available for distribution in the Profit and Loss account. It also affects the division between capital and retained profits in the balance sheet

- **Operating Capital Maintenance (OCM)** is concerned with maintaining the physical output capability of the assets of the company. Capital maintenance under this approach requires the company to have as much operating capability – or productive capacity – at the end of the period as at the beginning. Under OCM, profit is therefore only measured after provision has been made for replacing the output capability of a company’s physical assets. Generally, this would require the application of specific inflation indices to the values of the company’s assets.

- **Financial Capital Maintenance (FCM)** is concerned with maintaining the real financial capital of the company and with its ability to continue financing its functions. Capital is assumed to be maintained if shareholders’ funds at the end of the period are maintained in real terms at the same level as at the beginning of the period. Under FCM, profit is therefore only measured after provision has been made to maintain the purchasing power of opening financial capital.

5.4 The use of the OCM concept may systematically incorporate insufficient or excess returns into the level of allowed revenue (depending, respectively, on whether asset-specific inflation was expected to be lower than or higher than general inflation). This is not a desirable feature of any regulatory regime, as it would not provide appropriate investment incentives. Under FCM, however, the returns to the providers of capital would equal the required return (as measured by the cost of capital) irrespective of whether replacement costs were rising or falling relative to general prices. Hence, if current cost accounting information is used as the basis to determine telecom prices or interconnection charges, FCM is the preferred capital maintenance concept. The conceptual framework of current cost accounting and financial capital maintenance has been discussed in detail at **Annexure 1. Therefore FCM Method is to be followed for CCA. Further CCA is to be implemented only in respect of fixed assets and other adjustments like cost of sale adjustment, monetary working capital adjustment, gearing adjustment and erosion in the value of shareholders funds due to general inflation is not to be carried out.**

5.5 **It is well understood that implementation of CCA involves extensive revaluation exercise. Preparation of CCA adjustments require detailed inputs in terms of description of assets, capital asset costs, age profile of assets, etc. In view of this -**

- **Accounting Separation will be initiated on Historical Cost Accounting basis. However, the operators shall gear up their systems and create necessary database so as to follow CCA within a period of 2 years. During this period, Accounting Separation on historical base would have to be stabilized.**
- **In order to minimize the efforts involved in CCA, reporting on CCA basis will be done every second year unlike reporting on HCA basis, which would have to be done every year.**
- **CCA has to be followed by those operators who have been in the operations for more than 3 years.**
- **The Current Cost adjustments will be limited to fixed assets only and full-fledged implementation of CCA is not required.**

Cost Allocation Principles

5.6 The Cost Allocation Principles indicate how various costs should be treated and allocated/apportioned to different services/network elements. The following two methods are generally used for allocation/apportionment of cost:

- Fully Allocated Costing (FAC)
- Long Run Incremental Costing (LRIC)

5.7 Implementation of FAC is done in two steps. In the first step, all the costs are identified into three categories:

- **Direct costs:** These are the costs, which can be directly identified to services/network elements. For example, in a Basic Telephone Service network, cost of local exchange can be directly allocated to the account head of “Local Exchange”.
- **Indirect costs:** These costs cannot be directly allocated to any one-service/ network element as they may be shared by more than one (identifiable) services/ network elements. For example, in a Basic Telephone Service network, access cables and exchange cables may share the cable trench. Hence, the cost of trench for laying cables will be shared by the network elements “Access – cable” as well as “Network- Exchange to Exchange Transmission”.

- **Unattributable Costs:** Such costs cannot be identified to a particular service/network element such as corporate expenses.

In the second step, the direct, indirect and un-attributable costs are allocated to various services / network elements on the basis of suitable cost drivers.

5.8 LRIC are the incremental costs that arise in the long run with a specific increment in volume of production. An increment is the unit of output over which costs are being measured. Incremental costs are the costs that are caused by providing a defined increment of output given that some level of output is already being produced. Long Run Average Incremental Cost (LRAIC) is a variant of LRIC, which associates long-term horizon to incremental cost. Incremental costs measure the cost variance when increasing or decreasing the production output by a substantial and discrete increment.

5.9 Implementing LRAIC could be a complex task and it typically involves the following steps:

- In a top-down cost estimation approach for LRAIC, various costs are grouped into manageable sets of homogeneous cost categories (HCCs). The level of homogeneity is determined by the need to identify individual cost drivers and to account for changes in individual costs over time. Grouping costs into HCCs that enable individual cost drivers to be tracked, may result in generating a large number of HCC.
- After generating HCCs, Cost Volume Relationships (CVRs) are developed which track how individual costs vary with the underlying cost drivers. Obtaining the data for constructing CVRs is a time-consuming exercise and involves engineering models/simulations, statistical surveys and field research.

The international experience shows that the LRIC Model takes many years to develop and implement.

5.10 Keeping in view the international experience and considering the complexities involved with development and implementation of the LRIC Model, Accounting

Separation shall be done on the basis of FAC. The implementation of LRIC for Accounting Separation shall be reviewed at a later date.

Cost Allocation Principles

5.11 For Accounting Separation, revenue and cost are to be allocated or attributed to different services, geographical areas, network elements and products/network services through following Accounting Standards/Principles:

- *Causation* - Revenues and costs should be allocated to those services or products/network services that cause the cost or revenue to arise.
- *Survey and sampling* - Operators may need to use survey and sampling techniques such as pattern of usage of network element for each type of product/network service, staff activity data, engineering information etc. in order to allocate costs to the relevant segments. The fundamental objective of this activity is to arrive at an appropriate basis of attribution to comply with the principle of causation. Where sampling is used it should be based either on generally accepted statistical techniques or other methods, which should result in accurate attribution of cost, revenue, etc.
- *Consistency* - To assist comparability, the same bases and assumptions should be used from year to year. However, it is recognised that with rapidly changing technologies, it may be necessary to review attribution principle annually.
- *Materiality* – The principle of materiality may be followed to avoid any detailed/cumbersome procedures if the impact is not considered very material. For example the iterative attribution methods may not be used for certain items, if the effect of that particular item is not expected to be material to the ultimate outcome.
- *Practicality* - The principle of practicality would reflect the need in any system to undertake sampling analysis, and at times use prudent and unbiased estimates of cost and volumes.
- *Objectivity* – This principle requires that the allocation method proposed should be reasonable, substantiated and arbitrary allocation method should be minimal.

- *Transparency* - The methodologies followed for attribution and preparation of statements by each operator should be comprehensively documented so as to be transparent to the regulator / other users of the statement.

5.12 The methodology for allocation and apportionment of cost has been discussed in detail in chapter 6

Chapter – 6

Allocation and Attribution Methods

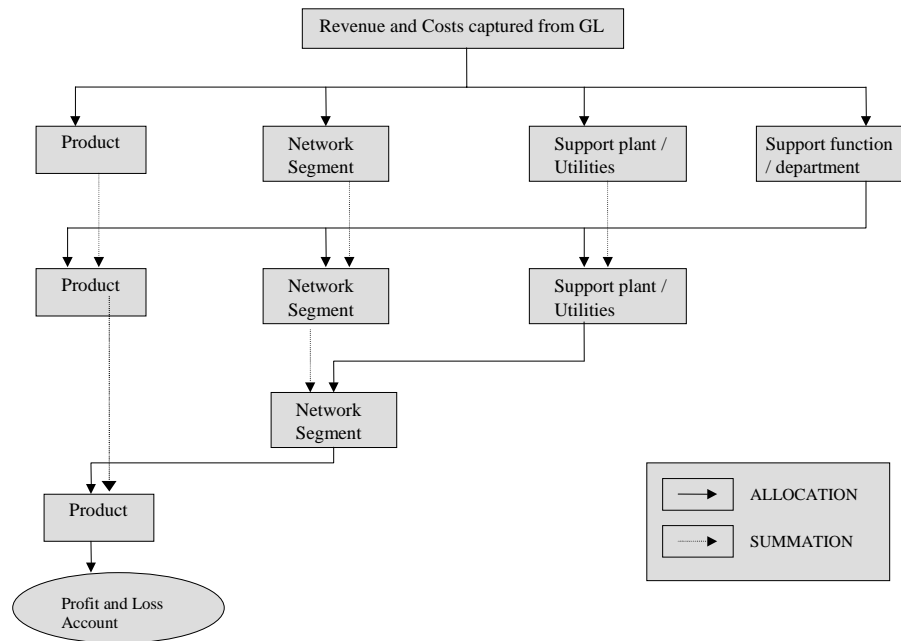
6.1 6.1 In Chapter 4, statements, which would have to be submitted by companies to TRAI and in Chapter 5, principles to be applied for allocation and apportionment of cost, are discussed. In this chapter allocation and attribution methods to be used for preparation of proposed financial statements of Profit and Loss accounts, Network Cost sheets, Statement of Capital Employed and Fixed Assets using apportioning principles have been discussed.

6.2 6.2 Companies shall maintain adequate records to enable the company to identify the capital employed, net fixed assets, working capital, etc. to different activities. The broad framework for allocation and apportionment has been discussed hereunder.

Allocation and Attribution Methodology for Preparation of Profit & Loss Statements & Network Cost Sheets

6.3 6.3 The framework for allocation and apportionment and generation of Profit and Loss statement and Network Cost Sheets has been provided in Exhibit 6.1.

Exhibit 6.1



6.4 6.4 Before explaining the steps involved in apportionment and allocation of cost and generation of statements, the following concepts are explained:

- • **Cost Centers** – The Cost Center is a unit for which costs are identified and captured for purpose of allocation/apportionment of costs. Broadly, three types of cost centers are identified:
 - ▪ **Network Cost Center (Element-wise)** – The network elements for a service have been discussed in Chapter 3. Each network element shall be a cost center and all costs, including return on capital employed, pertaining to that network element, would be accumulated for cost center of that network element. The cost of network will have to be accumulated/apportioned.
 - ▪ **Support Plant/Utilities** - The support plant cost centers shall include the plants, which support the core network, e.g. power plant, air conditioning plant, software maintenance, etc. The support plants are also referred to as utilities. A list of cost centers for support plants/utilities has

been provided in **Annexure 2**. The cost of support plants/utilities will be apportioned to various network cost centers.

- ▪ **Support functions** – The support function cost centers shall include support functions/departments such as marketing, customer care, finance, administration, transport, etc. Support functions are also referred to as functional departments. A list of cost centers for support functions has been provided in **Annexure 3**. The cost of support functions will be apportioned to the products/network services/network/support plant cost centers.

Each company shall identify and define the cost centre as relevant/applicable to them within the overall framework of the cost centres provided above.

- • **Profit Centers** – The Profit Center is a service or product/network service for which costs and revenue are worked out and matched to arrive at the profit or loss incurred.
- • **Allocation/Appportionment of Revenue** – The revenues earned for providing various services or products/network services are generally directly identifiable to each service/product/network service based on accounting records or ledgers and the billing system information. In respect of certain revenue items if direct allocation were not possible, in such cases the revenue shall be allocated on rational and equitable basis.
- • **Allocation/Appportionment of Cost** – It has been discussed in Chapter 5 that Fully-Allocated Cost Method is to be used for allocation of costs to different services or networks. The method or basis of attribution of cost has been discussed in detail as following:

- ▪ **Direct:** Cost, which are solely generated by a particular service or product/network service or network element and are recorded in the accounts against the relevant product/network service, service, asset or function. E.g. license fees for a service, direct maintenance cost incurred for a specific network element, depreciation for the network elements, etc. are the items allocable directly to a specific cost or profit centre.

- ▪ **Directly attributable:** Cost, which are solely generated by a particular service or product/network service but are not recorded in accounts against the relevant product/network service or service. E.g. advertisement and publicity expenses paid to external agencies, annual maintenance charges, etc. are cost, which are generally recorded in a common, account head and not against a particular product/network service, network element. However these costs may be directly identifiable to the service for which it has been incurred based on some underlying records. For example advertisement and publicity expenses incurred by a cellular operator for promoting SMS or GPRS may be booked under a common advertisement expense head but can be identified to SMS or GPRS profit centre.

- ▪ **Indirectly attributable:** Cost, which are part of a pool of common cost but which can be attributed to a particular service or product/network service or network element through a non-arbitrary and verifiable cause and effect relationship. There is no requirement for this to be a one-to-one relationship and it may be multi-step. For example costs such as billing expenses, customer care expenses, expenses of human resource department, rent of office building, etc. can not be identified to a particular service but can be apportioned by using certain cost drivers. For example:
 - ○ Billing expenses are generally common for all services, and the cost cannot be identified to any specific product/network service. However the cost can be apportioned to various services or

products/network services, based on certain cost drivers such as number of bills raised for each service or products/network services, etc.

- ○ Similarly the rent of office building which houses all the departments cannot be identified to any specific cost center but can be apportioned to various cost centers housed therein on certain cost drivers, say area occupied by each department, etc.
- ○ Similarly cost of utilities / support plant shall be treated as indirectly attributable and apportioned based on a relevant cost driver
- ● **Unattributable:** Cost, which are part of a pool of common cost and cannot be identified to a particular service, product/network service, asset or function through a non-arbitrary and verifiable cause and effect relationship. e.g. corporate office expenses, legal charges, etc. These cost have to be apportioned to various profit centre by applying some general cost driver such as revenue or contribution or total cost.

6.5 6.5 As per the process proposed in Exhibit 6.1, each item of income and cost shall be attributed to a “profit centre” or “cost centre”. It is to be done on rational and equitable basis and applied consistently. Income and costs would have to be allocated to those profit or cost centers, which gave rise to that income and cost. The pool of costs of each cost centre would then have to be attributed to further cost centres or profit centres until each cost centre is exhausted and all revenue and costs are associated with services and products/network services. The allocation process is a multi-tier attribution process beginning with the identification of direct and directly attributable cost and progressively attributing indirect cost on the basis of cost drivers.

6.6 6.6 The steps generally involved in the allocation / apportionment process are described in Table 6.1 below:

Table 6.1

Step 1	The first step is to capture cost from the books of account i.e. general ledger to the relevant profit centres and cost centres.
Step 2	<ul style="list-style-type: none"> • • Next step is to attribute the cost of support functions to profit centres and other cost centres (i.e. support plant and network elements). These costs would have to be attributed using appropriate cost drivers. • • The cost of support functions would have to be allocated to the profit centres or other cost centres depending upon whether such costs are: <ul style="list-style-type: none"> ▪ ▪ Directly attributable ▪ ▪ Indirectly attributable ▪ ▪ Unattributable • • The list of support functions, which are generally adopted by a telecom company along with the illustrative list of cost drivers, which may be used in cost allocation of the respective functions, is provided at Annexure 2.
Step 3	<ul style="list-style-type: none"> • • This step involves attribution of cost of support plant or utilities to various network elements used for providing the services or products/network services by using appropriate cost drivers. • • A list of indicative support plant or utilities used by a telecom company along with the illustrative cost drivers are provided in Annexure 3.
Step 4	<ul style="list-style-type: none"> • • After undertaking the above two steps, the cost for each network element would be available. The cost for each network element would include direct cost incurred for operation and maintenance of the respective network elements and also the allocated cost of support function and support plant. • • The network cost to be transferred to the product/network service would have to be inclusive of return on capital employed. The Return

	<p>on Capital Employed has been discussed in paras 6.7 to 6.12.</p> <ul style="list-style-type: none"> • • The next step would be apportioning the network element cost to various products/network services. • • The cost of each network element would have to be attributed to products/network services based on a causation effect i.e. cost shall be directly allocated to the products/network services for which the network element is used (e.g. International gateway shall be allocated directly to ILD calls, or SMS server cost shall be directly allocated to SMS charges). In case the network element is used for more than one service then the cost of network element shall be attributed to various products/network services based on an appropriate cost driver, which shall primarily be usage related such as usage in minutes, number of connections, number of circuits or bandwidth, etc. • • The illustrative list of network elements along with their respective cost drivers has been provided in the formats placed at Part II of guidelines on SAS for each of the services. (Also refer Annexure 4).
Step 5	<ul style="list-style-type: none"> • • This step involves aggregating costs of various services / products/network services thus providing the profit and loss.

Allocation and Attribution Methodology for Preparation of Statements for Capital Employed

6.7 6.7 The Capital Employed shall be worked out for each geographical area of a service. The Capital Employed Statement is to be used to work out the Return on Capital Employed for a geographical area within a service. The concept of Capital Employed and Return on Capital Employed for Accounting Separation along with their derivation is discussed below:

Methodology to determine Capital Employed and Return on Capital Employed

6.8 6.8 The capital employed is capital in use in a business. Mathematically,

$$\begin{aligned}\text{Capital Employed} &= (\text{Gross Book Value of Fixed Assets} - \text{Depreciation}) + \\ &\quad \text{Capital work in progress (CWIP)} + (\text{Current Assets} - \text{Current Liabilities}) \\ &= \text{Net Book Value of Fixed Assets} + \text{CWIP} + \text{Working Capital}\end{aligned}$$

6.9 6.9 Fixed Assets remain as an asset in the balance sheet until written off by a process of depreciation or amortization. These have an opportunity cost in terms of the interest or return that could have been earned if the initial amount was invested in a financial asset of equivalent risk. The decision to invest in capital asset is taken if company is able to get returns having present value greater or equal to the Gross Book Value of asset. This Required Rate of Return for Accounting Separation shall be taken as Pre-tax Weighted Average Cost of Capital (WACC).

6.10 6.10 WACC is a method of establishing an organization's cost of capital by taking each source of funds from its balance sheet and assigning a Required Rate of Return to each individual source. The amounts of each of the sources of funds are used as weights applied to the Required Returns, and the total return is divided by total weights to give the WACC expressed as a percentage. The term WACC has been used in a number of other places in the SAS and everywhere it would mean Pre-tax weighted average cost of capital. Mathematically,

$$\text{Pre Tax WACC} = \frac{R_e * \omega_1}{(1-T)} + R_d * \omega_2$$

where,

R_d = Cost of debt

R_e = cost of equity capital

T = Corporate Tax rate

ω_1 = *proportion of equity in capital structure*

ω_2 = *proportion of debt in capital structure*

$$\text{and } \omega_1 + \omega_2 = 1$$

6.11 6.11 The Return on Capital Employed for Accounting Separation exercise is taken on average capital employed. The Average Capital Employed is the average of capital employed at the beginning and close of the Accounting Period. Mathematically, Return can be represented as under:

$$\text{Return on Capital Employed} = \text{WACC} \times \text{average capital employed}$$

6.12 6.12 The Capital Employed worked out for each geographical area for a service shall be segregated into “Network” and “Other than Network” categories. The Return on Capital Employed for the Network Elements would have to be apportioned to each Network Element. Detailed Methodology for allocation and apportionment has been discussed in **Annexure 4**. The Return on Capital Employed for Network Elements when added to depreciation and operational expenditure of respective network elements, would give total cost of each network element. These concepts have been laid down in formats for Network Element Cost Statements, which are placed in Part II of the guidelines on SAS. General principles for allocation of the main components are discussed in **Annexure 5**.

Allocation and Attribution Methodology for preparation of Fixed Asset Statements

6.13 6.13 The Gross Book Value and accumulated depreciation of Fixed Assets need to be identified to network elements and other cost centers related to support functions and support plants. This is required for the purpose of allocation of Depreciation and Return on Capital Employed for geographical area of a service and Network Elements within that geographical area.

6.14 6.14 Generally, the fixed assets for each cost or profit centre are directly identifiable from the asset records. In case of common assets the capital cost would have to be apportioned to network elements based on appropriate parameters.

6.15 6.15 Broad categories of fixed assets and their respective allocation/apportionment methods are mentioned in Table 6.2 below:

Table 6.2

Asset category	Method of allocation/apportionment
Assets that can be directly allocated to cost or profit centres, e.g. local exchanges, trunk automated exchange, OFC media, satellite etc.	Generally, these should be directly attributable to network elements and other cost centres based on the asset records. In case asset records do not provide the above identification, the detailed records may have to be created. In the interim period, fixed assets costs of the various network elements may have to be arrived at on the basis of a sampling study.
Assets jointly used by two or more services or functional departments e.g. land and building housing the TAX and local exchange, office building, etc	These would have to be apportioned to the beneficiary department on an appropriate basis, e.g. floor or space occupied in building by respective departments or network elements.

Apportionment of costs for common network elements or facilities across services

-

6.16 6.16 For an integrated operator there would be instances of common Network Elements or facilities across services. For example in case of **Basic Telephone Service Operator** some network elements will be common between Basic Telephone Service segment and NLD service segments, few Network Elements

may jointly be used for more than one service. The approach to deal with these situations has been discussed below.

Intra circle network – common for Basic Telephone Service and National Long Distance

6.17 6.17 In the case of integrated service providers, the intra-circle network may be used for providing basic telephone services and also for providing NLD services. For the purpose of SAS the cost of Intra circle network shall be captured separately and cost corresponding to the NLD service segment shall be transferred based on the usage of the Intra circle network for NLD operations.

Network elements jointly used for more than one service

6.18 6.18 In certain cases, network elements are jointly used for providing more than one service for example transmission facilities can be jointly used for providing Internet, Basic telephony, NLD or ILD services. Such network elements shall be taken as part of the service to which it predominantly pertains and a transfer price will be charged to the other services based on utilisation. The transfer price in such instance will be the actual cost per unit of measurement. The unit of measurement shall be minutes of usage in case of switches and bandwidth in case of transmission.

Transfer price across services – Revenue sharing

6.19 6.19 In case of multi service operators one service segment may procure services from the other service segments. For example, a Cellular Mobile Service Operator interconnects with the Basic Telephone Service Operators' network for making calls from mobile to fixed line. Similarly Basic Telephone Services operator interconnects with NLDO for the long distance calls.

6.20 6.20 Transfer price for using the services of other service segments would be taken at the market price or at the price at which the same services are being provided to the other operators. For example, if revenue sharing arrangement between BSO and NLDO is 60:40, the same shall be used by an integrated operator for revenue sharing between two service segments.

Simpler method of allocation / apportionment in certain cases

6.21 The tiered method of allocation/ apportionment explained above would be followed in cases where there are more than one product/network service or where network elements can be leased or shared with other operators or service segments. However, for services such as PMRTS, Radio Paging and GMPCS where, single service/product/network service is provided and network is not normally shared, detailed accounting separation is not required for the time being and a simpler method of allocation can be followed, instead of multi-layer allocation of cost. In such cases, cost of the support plant/utilities, support functions would not be re-analysed but taken directly to the service's profit and loss account. Similarly the cost of network can be taken directly to the services' profit and loss account.

Assets/Liabilities/Income/Expenses excluded

6.21 6.22 There are certain non-relevant items, which would be excluded for determining the charges of services or products/network services. The non-relevant items would be added as reconciling item with the statutory accounts.

6.22 6.23 The non relevant items would include the following items:

Assets and liabilities

- • Non-telecom service related assets, liabilities, revenue and costs.
- • Investments – such as in shares, joint ventures, subsidiary company etc.
- • Financing transactions – such as inter corporate lending –borrowing
- • Goodwill

Income and expenses

- • Non operating income
- • Interest costs
- • Corporate Tax
- • Dividend distributions (paid and proposed)
- • Amortisation of goodwill
- • Return on investments
- • Extra- ordinary items – such as abnormal loss due to fire/ theft etc.

Chapter - 7

Books of Account

7.17.1 In this chapter Books of Account that would have to be maintained by the operators are prescribed. These books of account would facilitate generation of accounting separation statements.

7.27.2 All the telecom service providers, licensed by the Central Government, are incorporated as a company under the Companies Act, 1956. The Books of Account, which are presently being

maintained by the operators, include all the records **required to be maintained under the Companies Act, 1956 and also as required under generally accepted accounting practices.**

7.37.3 As per Section 209 of the Companies Act, 1956, every company is required to keep proper books of account with respect to:

- . All sums of money received and expended by the company and the manner in which the receipt and expenditure take place;
- . All sales and purchases of goods by company;
- . The assets and liabilities of the company;
- . In the case of a company pertaining to any class of companies engaged in production, processing, manufacturing or mining activities, such particulars relating to utilization of material or labour or to other items of cost as may be prescribed, if such class of companies is required by the Central Government to include such particulars in the books of account.

7.47.4 As per the generally followed accounting practices, operators maintain the following books of account / financial records:

- . Balance sheet, profit and loss account and the underlying schedules
- . General ledger
- . Trial balance

- . Fixed asset register
- . Various subsidiary ledgers / registers/day books such as sale register, debtors ledger, accounts payable ledger, store ledger etc.
- . Other underlying records such as vouchers, daybooks, cash and bankbook, etc.

7.57.5 The operators are also required to follow the generally accepted accounting principles and Accounting Standards issued by the Institute of Chartered Accountants of India. By and large the above-mentioned financial records would also form the underlying records for the SAS. Most of the information would be retrieved/compiled from the existing accounting records for preparation of statements to be submitted to TRAI. However, to meet certain specific requirements of accounting separation, additional information may have to be maintained either in the existing records or by creating additional records. The books of account would have to contain, inter-alia the particulars specified in formats of reports laid down in part II of the guidelines on SAS. The modifications / additional records that may have to be maintained by the operators, have been outlined in the subsequent paragraphs.

Fixed asset records

7.67.6 Currently the operators maintain the fixed asset register as per the statutory requirements. This fixed asset register generally provides the following details:

- • Classification of asset
- • Location of the asset
- • Quantity i.e. number of units
- • Original cost as well as addition / deletion / adjustments for revaluation etc.
- • Date of installation / commissioning
- • Details pertaining to the life of the asset, the useful life and the remainder life
- • Rate of depreciation
- • Depreciation for the year and the accumulated depreciation, etc.

7.77.7 The fixed asset register provides asset-wise details. However it may not provide certain information, which is a prerequisite for accounting separation exercise and network element based costing. The following information would have to be captured in the fixed asset register to facilitate the generation of accounting separation reports:

- • The assets register would have to be maintained geographical area wise for each service, for example circle wise asset records in case of a basic service operator.
- • Within a geographical area, separate sections would have to be maintained in fixed asset register for each network element.

This would help in determining total capital cost of a particular network element. For example optical fiber cable will have to be mapped to network element for which it is used such as local exchange to local exchange, transmission between local exchanges to transit switch, or for providing access to the subscribers.

- · In fixed asset register, each asset's record would have to be kept within the section for a network element. This is required to facilitate any split/ merger of network elements in future.
- · In case an item is used for more than one element or cost centre, the same would have to be identified in the fixed asset register.
- · The cost of up-gradation or subsequent additions/deletion to the existing equipment would have to be tracked with the original cost. The details pertaining to the date of addition, nature of addition, etc. would have to be recorded in respect of the additions.
- · For common assets such as land and building, etc. details of the network elements / department using the assets along with proportion of use would have to be maintained.

7.87.8 In case assets pertaining to more than one element are purchased/constructed together, the operators would need to break the costs at the time of capitalisation to the respective network elements.

Costing records and Cost Sheets

7.97.9 In order to generate accounting separation statements, the operators would need to have an appropriate costing system in place, which would enable generation of prescribed statements. The non-financial data required for attribution of costs would also have to be maintained which have been discussed in subsequent paragraphs. Based on the costing system, the revenue, costs, assets, liabilities or any other information maintained in financial records would be attributed, allocated or apportioned to various profit centres and cost centers, which were discussed earlier in chapter 6.

7.10 7.10 The following cost ledgers and cost statements would have to be maintained to enable an operator to generate requisite reports on Accounting Separation, which are required to be submitted to TRAI:

Detailed ledgers / statements

Ledger / statement	Information to be maintained
Cost ledger	A ledger showing compilation of revenue / cost / assets and liabilities by cost centres / profit centres. This would also act as an audit trail / linkage with the general ledger.
Cost sheet – product/network service	A detailed cost statement for arriving at total cost for each product/network service, showing direct costs of the products/network services, costs allocated / apportioned from

Ledger / statement	Information to be maintained
	network cost sheet, support plant / support utilities cost sheet and support function cost sheet.
Network cost sheet – element wise	<p>A detailed cost statement for arriving at total cost for each network element, showing direct costs of network, costs allocated / apportioned from support plant / support utilities cost sheet and support function cost sheet.</p> <p>The above statement shall also show the network element costs allocated / apportioned to various services / products/network services.</p>
Cost sheet – support plant/ utilities	<p>A detailed cost statement for arriving at total cost for each support plant / utilities, showing direct costs of the support plant, costs allocated / apportioned from support function cost sheet.</p> <p>The above statement shall also show the support plant/ utilities costs allocated/ apportioned to various network elements.</p>

Ledger / statement	Information to be maintained
Cost sheet - support function/ department	A detailed cost statement for arriving at total cost for each support function / department and allocating the costs to support plant, network and products/network services.

Statistical Records

7.11 7.11 The records shall be maintained in respect of exchanges, switching capacity, number of subscribers, Number of PCOs, Tariff rate structure, Transmission medium and capacity, Points of interconnection etc. The records would have to be maintained in such a manner so as enable operators to generate reports on Non-Financial information in the formats specified in Part II of the recommendations. The records would have to be maintained in such a manner that information available therein should support the allocation or apportionment procedures.

Production Records

7.12 7.12 The quantitative records of traffic data with regard to number of calls, local calls, Long Distance calls and International calls, average duration of calls,

average pulse rate, duration of total calls under above mentioned categories, total minutes of usage, distance involved in calls etc. The records shall be maintained in such a manner so as enable operators to generate reports on non-financial information in the formats specified in Part II of the guidelines on SAS.

Chapter - 8

Administrative Requirements

8.1 8.1 This chapter discusses the administrative requirements for implementing Accounting Separation and submitting statements to TRAI.

8.2 8.2 **Applicability** - All the companies, which are engaged in one or more of the following telecommunication activities, are required to separate their accounts in the manner discussed in the SAS.

- • Basic Telephone Service
- • National Long Distance Service
- • International Long Distance Service
- • Cellular Mobile Telephone Service
- • Very Small Aperture Terminal Service (VSAT)
- • Radio Paging Service
- • Public Mobile Radio Trunk Service (PMRTS)
- • Global Mobile Personal Communication Service (GMPCS)
- • Internet Service

The framework of SAS has been discussed in Chapter 3. It is pertinent to note that detailed Accounting Separation has been prescribed for integrated service providers, whereas considering the cost of Accounting Separation, a much simpler framework for Accounting Separation has been prescribed for companies providing services in

single circle or city and those companies providing services like Radio Paging, PMRTS, GMPCS, VSAT.

Operator-specific Accounting Separation Manual

8.3 8.3 Companies, providing any of the services mentioned in the above para, would be required to prepare an Operator Specific Accounting Separation Manual (OASM). OASM would give description of procedure that would be followed to implement the SAS and reporting requirements.

8.4 8.4 OASM shall contain a comprehensive and complete documentation of the policies, principles and methodologies that the company shall follow in preparing the SAS reports. The OASM shall be sufficiently detailed so that it is transparent to the Regulator, independent auditor or any third party, of the specific policies and methodologies that have been used in preparing the accounting separation reports.

8.5 8.5 In particular the OASM shall include the following:

Organisational structure	An overview of the Operator's organisational structure and its business units/ business lines. This would include details of the business units within the organisation and the relationships between them as well as with the support units.
Group companies	A list of the entities in telecom sector within the Group. Relationships of the Operators with the other group companies in terms of interconnection, common resources/ infrastructure, etc would be specified.
Financial accounting system	An overview of the financial accounting system followed by the Operator and its integration with the accounting separation and reporting system shall be specified. The

	financial accounting policies followed in preparation of the financial accounts shall be stated. The policies should specifically include the policies relating to capitalisation, depreciation, advance receipt of revenue, security deposit, provision for bad and doubtful debts etc.
Segmentation	<p>The framework of SAS into segments was discussed in Chapter 3. Operator shall specify list of segments relevant to its operation in the OASM.</p> <p>OASM shall give details of relationship among the services offered, in terms of inter-services sale, joint assets, sharing of resources etc.</p>
Accounting separation system	<p>The OASM shall describe Accounting policies followed for allocation and apportionment of revenue, cost, assets and liabilities. It shall also describe the accounting system followed for recording and generation of the accounting separation information and reports that includes the following:</p> <ul style="list-style-type: none"> • • Cost centres / profit centres • • Method of linking financial heads to cost centres / profit centres • • Bases of allocation / apportionment used, cost drivers, assumptions made including sampling / surveys etc. used for allocation / apportionment.
Current cost accounting system	<p>Methods or bases used to value various types of assets and Accounting treatment followed for CCA adjustment shall clearly laid down in the manual.</p>
OASM Maintenance and Updation Procedures	<p>Procedures for maintenance and updating of the OASM shall be described.</p>

8.6 8.6 In the initial stages, if any specific accounting treatment cannot be applied by the Operator because of an initial lack of database, the Operator must identify the steps being taken and the time required to implement it.

Filing of OASM

8.7 8.7 Each operator shall file an OASM with TRAI within 3 months after the necessary rules have been issued by the Central Government. The OASM would be updated annually to reflect changes in the procedures resulting from the organizational changes, improvements in costing techniques, technological innovations etc. Such changes would be reported to TRAI. Any change to the OASM with respect to the segmentation/ accounting separation system/current cost accounting system would require to be initiated. In case operator proposes to change reporting formats, it would need to submit a statement of reasons for changes along with an indicative impact, if any, of the proposed change on the reporting to TRAI. TRAI may direct the Operators to provide further information/ clarifications while reviewing the changes proposed by the Operators.

8.8 8.8 **Schedule for implementation of Accounting Separation** - Every company, required to implement SAS, in respect of each of its financial year commencing on or after the date of notification of Rules, shall implement SAS.

Confidentiality

8.9 8.9 TRAI shall use the information provided by the Operators for its regulatory duties and limit the disclosure of such information to its staff and advisors/consultants as considered necessary.

8.10 8.10 TRAI may however disclose full/part of the information only if it is considered necessary in public interest. However, before making public any confidential information, an opportunity would be given to the Operators for raising objections to such public disclosure. TRAI may however overrule such objections if considered necessary in the public interest.

Audit requirements

8.11 8.11 The reports to be submitted to TRAI would need to be audited by an independent auditor.

8.12 8.12 The above audit requirement would be beside the statutory audit to be carried out under the Companies Act, 1956.

8.13 8.13 In case the operators are covered by the Audit of Cost Accounts under Section 233B of the Companies Act, 1956, the audit would have to be governed by this section.

8.14 8.14 The auditor would be appointed by the Operator.

8.15 8.15 The auditor can be:

- • Any member of the Institute of Chartered Accountants of India (ICAI) who is eligible to be appointed as statutory auditor under the Companies Act, 1956
- Or
- • Any member of the Institute of Cost and Works Accountants of India (ICWAI) who is eligible to be appointed as cost auditor under the Companies Act, 1956.

- 8.16 8.16 An auditor shall have the same powers in relation to the above audit as a statutory auditor has under Section 227 of the Companies Act, 1956.
- 8.17 8.17 The audit shall be conducted in accordance with the generally accepted auditing standards.
- 8.18 8.18 The audited accounting separation statements should be submitted to TRAI within 6 months of the close of the accounting year.
- 8.19 8.19 The auditor in his report shall express his opinion on the following:
- • Whether the accounting separation statements for the reporting period have been properly drawn up in accordance with the Operator Specific Accounting Manual (OASM) as furnished to TRAI and so as to present fairly in all material respect the information reported therein. (State names of the statements as applicable)
 - • Whether he has received all information and explanations necessary for the purpose of audit
- 8.20 8.20 The auditor would have to make a reference in his report on the following aspects:
- • Any material non-compliance with the OASM pertaining to the accounting separation and the impact thereof, if any
 - • Whether all changes to the OASM that materially affect the accounting separation for the period have been filed with TRAI
 - • Any other matters arising from the audit, as the operator considers necessary, would have to be reported.

8.21 8.21 The auditor's report along with the audited Accounting Separation Statements shall be submitted by the operators to TRAI. A copy of the audited Annual Financial Statements shall also be submitted by the operators along with the Accounting Separation Statements.

8.22 8.22 TRAI reserves the right to hold discussions with the auditor and may seek clarifications from them. However, this would be done after intimation to the Operator. The Operator shall ensure that this requirement is provided for in the Letter of Engagement with their auditors.

8.23 8.23 All audit related costs shall be borne by the operators.

Annexure 1

CURRENT COST ACCOUNTING

Introduction

1. 1. Current Cost Accounting (CCA) is a methodology originally devised for financial reporting in times of rapidly changing prices where traditional Historical Cost Accounting is considered inadequate.
2. 2. In context of telecom industry, CCA is considered to be a substitute for forward-looking costs. The current costs represent investments choices of operators today; both for an incumbent operator planning to modernise the network and for a new entrant planning to decide whether to build a new network.
3. 3. This chapter details various approaches to CCA, valuation methodologies used in CCA, adjustments to be made on account of CCA and implementation of CCA.

Approaches for CCA

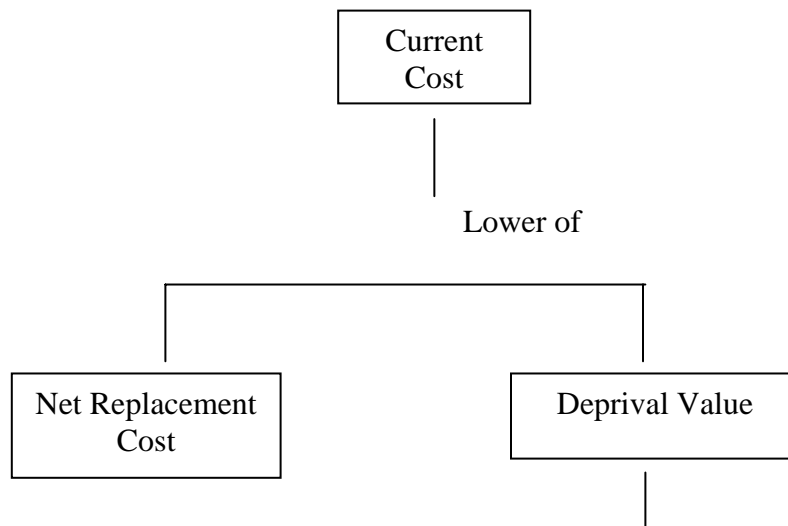
4. 4. There are two approaches to CCA, which differ in their approach to “capital maintenance”. Capital maintenance means the manner in which capital of company is viewed for determining the profit.
5. 5. Capital can either be viewed in operational terms (company’s capability to produce goods and services) or in financial terms (the value of shareholder’s equity interest).
 - • Operating Capital Maintenance (OCM) concept requires the company to have as much operating capacity in the end of the period as in the beginning.
 - • Financial Capital Maintenance (FCM) considers that financial capital for the company is maintained in the current price terms. Capital is assumed to be maintained in real terms at the same level as at the beginning of the period.
6. 6. Internationally, FCM approach is followed in the Telecom Industry for the accounting separation.

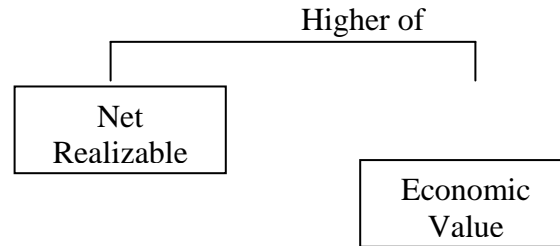
Valuation for CCA

7. 7. Calculating current costs involves the following steps:

Valuation of Assets

8. 8. Valuation of assets is a major element of the current cost accounting exercise.
9. 9. The assets can be valued as shown below:





10. 10. The current costs reflect the business value of the assets. The business value of asset is lower of the deprival value and net replacement cost.
- • Net Replacement Cost is the cost of replacing asset with a similar characteristics and age.
 - • The deprival value represents recoverable value of the asset to the organisation, which is higher of net realisable value and economic value. Net realisable value is the value of asset if it were sold. Economic value is the net present value of the future cash flows from the asset.
11. 11. Normally, Net Replacement Cost of the asset is used as the Current Cost measure.
12. 12. Net replacement cost of an asset is determined on following basis:
- • When there is not much change in technology level, there are two methods of determining net replacement asset value.
 - ▪ Indexation: For each class of asset, price indices are created by analysing trend of prices over a period of time. These price trends are further modified using inputs from external sources like RBI price indices etc. A base year is chosen and price trends over the year are compared to the base price. For the newer technologies, base year is set to the first year of expenditure.
 - ▪ Absolute Value: At times, indexation method may not be feasible for the lack of data or other issues. Hence it may be more reliable to use physical volumes and unit prices to derive an absolute valuation.
 - • In situations where there is a technological change, existing assets would not be replaced in an identical form. This may happen because the existing asset is no longer manufactured or its capacity and functionality have been significantly updated. In such cases, value of Modern Equivalent Asset

(MEA) is taken which is value of a currently available asset with same level of capacity and functionality.

13. 13. The choice of method for a particular class of asset depends on individual set of circumstances. In context of Indian Telecom industry, major part of the total capital base is represented by assets, which have been acquired in the recent past. Thus many of the assets may fall under the existing technology.

Functionality abatement issues in MEA

14. 14. In telecommunication industry, the calculation of MEA value is further complicated by rate of technological change in the industry. The identification of a suitable asset, which represents same level of functionality and capacity is a major issue. Moreover, the calculation of MEA value may also impact the value of another asset. For example, if copper cables were replaced by fiber cables in current cost valuation, then corresponding size of the fiber cable will be different from existing copper cable and hence the ducting and trenching cost will have to be modified to reflect the ducting and trenching estimates for fiber cable. If fiber cable requires lesser manpower to provide operation and maintenance as compared to the copper cable, corresponding operating and maintenance costs will also need to be modified as per the revalued asset. These adjustments are known as 'Functionality abatements'.

15. 15. The following needs to be noted with respect to the MEA approach:
- • The above operating costs readjustment corresponds to revaluation of asset only and not on the account of improvement of manpower efficiency.
 - • Emerging new technologies should not be treated as MEA until their cost of replacement is lower than that of existing assets. For example, use of fiber in access will not be an MEA till its cost is lower than copper access.
 - • The use of new technology as MEA does not assume any efficiency gain on account of improved network topology. The network architecture remains same as in existing network.

Surplus Capacity

16. 16. If the capacity of an asset is not in use and is not expected to be used over the next few years' planning horizon, the capacity is considered to be surplus. For example, if the exchanges are revalued on MEA basis, corresponding area requirement are reduced because of smaller size of the equipment. This may lead to surplus capacity of the building housing the exchange equipment.

17. 17. Only the operative capacity of business is valued for the Current Cost Accounting.

CCA Adjustments

18. 18. After making asset value change, following adjustments should be made

- • **Depreciation adjustment**

Supplementary Depreciation

The charge to the Profit and Loss account for depreciation should be equal to the value of the fixed assets consumed during the period. When the fixed assets are valued on the basis of Net Current Replacement cost, which may increase/decrease during the year, the charge is based on Net Current Replacement cost for the period. Hence supplementary depreciation needs to be provided to cover up the difference between current cost and historical cost of asset, as described below:

*(Rate of depreciation * Current cost of fixed assets) – Historical cost depreciation for the year*

Backlog Depreciation

The total current cost depreciation (the sum of historical cost depreciation and supplementary depreciation charges) will not be equal to the replacement cost of the asset at the end of its life because change in asset cost in intermediate years has to be accounted for. This difference in depreciation is adjusted by providing for 'backlog depreciation'.

The backlog depreciation is not debited to the P&L account. Instead, it is debited directly to current cost reserves. This is because backlog depreciation does not form part of current period's current cost of utilising the asset, rather it represents the effect on past consumption of subsequent price changes.

- • **Cost of Sales Adjustment (COSA)**

This represents the difference between the value to business of the stock consumed during the period and its historical cost.

$$\text{COSA} = (\text{Closing Stock} - \text{Opening Stock}) - \text{Average index for period} \left(\frac{\text{Closing Stock} / \text{Closing index} - \text{Opening Stock} / \text{Opening index}}{\text{Average index for period}} \right)$$

The stock figures that are to be taken are the historical cost figures.

Since telecom industry is largely a service-oriented industry with no “raw material” consumption, the COSA should not generally make a significant difference to the P & L.

Hence, no COSA is required to be made for CCA.

- **Monetary Working Capital Adjustment (MWCA)**

It reflects the amount of additional or reduced finance needed for monetary working capital as a result of changes in the input prices of goods and services used and financed by the business. In times of rising prices, a business needs more funds to finance monetary working capital.

Monetary working capital is the sum of:

1. Trade debtors, pre-payments, and trade bills receivable plus
2. Special category of stock not subjected to COSA
3. Less Trade creditors, accruals and the trade bills payable.

Cash is not to be taken into account. Only that part of bank balances and overdrafts that fluctuate with the volume of stock or any other item mentioned above are to be taken into account.

$$\text{MWCA} = (\text{Closing Monetary Working Capital} - \text{Opening Monetary Working Capital}) - \text{Average index for period} (\text{Closing Monetary Working Capital} / \text{closing index} - \text{Operating Monetary Working Capital} / \text{opening index})$$

The adjustment for MWCA is done in balance sheet by creating a special current cost reserve.

For the sake of simplicity, no adjustment may be made in respect of MWCA for CCA adjustment.

- **Gearing Adjustment**

Gearing adjustments reflects the impact of capital structure of an organisation on profits. The payout to borrowings/loans is not affected by the changing prices. Hence, if a company is financed by external loans, it will be benefited during period of inflation as its payout is decreased in real terms during inflation periods. Gearing adjustment is calculated by expressing the net borrowings as a proportion of the net operating assets and multiplying with the total of current cost adjustments.

19. 19. Net Borrowings is the excess of-

- • The aggregate of all liabilities and provisions fixed in monetary terms other than those included in MWC and other than those which are, in substance, equity capital

Over

- • The aggregate of all current assets other than those subject to COSA and those included in MWC.
20. 20. Net operating assets comprise the fixed assets (including trade investments), stock and MWC dealt with in a historical balance sheet.
21. 21. Therefore, the three main stages in calculation of the gearing ratio are:
- • Determine the average gearing ratio i.e. - Average net borrowings/Average net operating assets
 - • Add all the three current cost adjustments
 - • Apply average gearing ratio to the above current cost adjustments.
22. 22. These adjustments are undertaken in balance sheet to reflect the change in value of current assets.

FCM Profit

23. 23. Profit is recognised only after taking account of holding gains or losses that arise due to the effect of asset-specific inflation on the current cost value of assets and the effect of general inflation on shareholders' funds. Current cost profit under FCM can be derived as follows:

FCM profit = HC profit + holding gains/(losses) – the erosion in the value of shareholders' funds due to general inflation

24. 24. Holding gains (or losses) comprise two components:
- • The gain in the current cost value of assets as a result of changes in the cost of assets; that is, as a result of asset revaluation; and
 - • The element of the revaluation that is written off as depreciation during the year in question
25. 25. The gain in current cost can be derived as:

$NBV(HC)_{t-1} \times (GR_{Ct}/\text{acquisition cost})$ less $NBV(HC)_{t-1} \times (GR_{Ct-1}/\text{acquisition cost})$

where $NBV(HC)_{t-1}$ is the written down historical cost of the asset at the end of the previous year, GRC is the gross replacement cost and acquisition cost is the original purchase consideration. The above formula reduces to the net book value in current cost terms at the end of the previous year multiplied by the change in the asset-specific price index.

26. 26. The element of the revaluation that is written off as depreciation is derived as:

- • $HC \text{ depreciation} \times (GRC_t / \text{acquisition cost}) \text{ less } HC \text{ depreciation}$

Given that HC depreciation is derived as acquisition cost divided by asset life, this formula reduces to: $(\text{gross replacement cost} - \text{acquisition cost}) / \text{asset life}$

27. 27. As discussed above, this is equivalent to supplementary depreciation. For the purposes of SAS, it shall be debited to the Profit and Loss account.

28. 28. The effect of general inflation on shareholders' funds is taken into account through an adjustment to shareholders' funds, determined by multiplying the opening value of shareholders' funds by the change in the index of general price inflation for the period. This is debited to the Profit and Loss account and credited to a financial capital maintenance reserve.

29. 29. **Numerical Example:** The tables below illustrates the above concepts for an asset purchased for Rs 10,000. The assumed life of the asset is 4 years. For simplicity, it is assumed that the asset is depreciated on a straight line basis. It is assumed that the cost of replacing the asset falls by 10% per annum.

Year	Current Cost	Depreciation			Cumulative	"Required"	Backlog
		Current Cost	Historical	Supplementary			
0	10,000						
1	9,000	2,250.00	2,500.00	(250.00)	2,250.00	2,250.00	Nil
2	8,100	2,025.00	2,500.00	(475.00)	4,275.00	4,050.00	(225.00)
3	7,290	1,822.50	2,500.00	(677.50)	5,872.50	5,467.50	(405.00)
4	6,561	1,640.25	2,500.00	(859.75)	7,107.75	6,561.00	(546.75)

Year 1

- • $\text{Current Cost in Yr 1: } 10000 - 1000 = 9000 \text{ (fall of 10\%)}$
- • $\text{Current Cost Depreciation} = 9000 / 4 = 2250$
- • $\text{Historical Depreciation} = 10000 / 4 = 2500$
- • $\text{Supplementary depreciation} = \text{Current} - \text{Historical} = (250)$

- • $Required = current\ cost/asset\ life\ used = 9000/4 = 2250$
- • $Backlog = Required - cumulative\ current\ cost\ depreciation = 0$

Holding Gain / Loss

- • *Gain in Current Cost Value:*
 $10000 * 9000/10000 - 10000 * 10000/10000$
 $= (1000)$
credited to P & L
- • *Supplementary Depreciation = (250)*
debited to P&L account

Share Holder Gain/Loss

- • *Shareholder funds * (change in inflation index)*
debited to P & L and credited to Financial Capital Reserve

Year 2

- • $Current\ Cost\ in\ Yr\ 2: 9000 - 900 = 8100$ (fall of 10%)
- • $Current\ Cost\ Depreciation = 8100/4 = 2025$
- • $Historical\ Depreciation = 10000/4 = 2500$
- • $Supplementary\ depreciation = Current - Historical = (475)$
- • $Required = current\ cost/asset\ life\ used = 8100/2 = 4050$
- • $Cumulative = Current\ depreciation\ yr1 + current\ depreciation\ yr2 = 4275$
- • $Backlog = Required - cumulative\ current\ cost\ depreciation = 4050 - 4275$
 $= (225)$

Holding Gain / Loss

- • *Gain in Current Cost Value:*
 $7500 * 8100/10000 - 7500 * 9000/10000$
 $= (675)$

Credited to P & L

- • *Supplementary Depreciation = (475)
debited to P&L account*
- • *Shareholder funds * (change in inflation index)
debited to P & L and credited to Financial Capital Reserve*

APPROACH PRESCRIBED FOR CCA

30. 30. The FCM method shall be followed for CCA. Further CCA shall be implemented only in respect of the fixed assets. Other adjustments mentioned below are not to be carried out:
- • Cost of Sales Adjustment (COSA)
 - • Monetary Working Capital Adjustment (MWCA)
 - • Gearing Adjustment
 - • Erosion in the value of shareholders' funds due to general inflation
31. 31. The assets shall be valued based on replacement cost method as explained above.
32. 32. Following the above principles of valuation, in general the assets shall be valued in the manner given below:
- • The assets items where major programmes of modernisation are underway in the next 3-4 years should be valued based on the concept of modern equivalent asset. Generally equipment such as exchanges, transmission equipment, etc. should be valued based on MEA.
 - • Specialised buildings, which are generally used for housing exchanges, should be valued at current cost of reconstruction as per the space requirements of modern equivalent asset.
 - • General use buildings should be valued at current cost of reconstruction.
 - • Land should be valued at land rates applicable for the same land use in the area.
33. 33. The assets with low value or short life may be valued at their historical price only as they may not have material impact. Accordingly, asset items with life of less than three years or value upto Rs. 1 lakhs may be stated at their historical prices.

ALLOCATION METHOD FOR SELECT SUPPORT PLANTS

Cost	Apportionment basis
<i>Power plants</i>	The costs of power plant can be based on: <ul style="list-style-type: none"> • • an analysis of the actual power consumed by each network element or • • on the basis of estimated power consumption by each network element (calculated based on the specifications given by the vendor of the equipment / connected load).
Air-conditioner plant	The total cost of air conditioning shall be apportioned based on the dimensions of area occupied by the network elements (generally function of height, length and width).
Software maintenance	The cost of software maintenance shall be apportioned based on time spent by key professional staff for various network elements or the number of calls attended by the software engineers.
Other support plant groups	The process for apportioning the costs of the other support plant groups, such as network administration computers, plant testing equipment, etc. draws on the basis of specific studies and analyses that identify how these costs relate to the network elements that they support.

Notes:

- 1 1 The cost of support functions shall be allocated to various Network elements.
- 2 2 From the point of simplicity, the cost of support plant may not be allocated to support functions as it would involve iterative allocation process.

ALLOCATION METHOD FOR SELECT SUPPORT FUNCTIONS

Cost	Apportionment basis
Human resource / Personnel	<ul style="list-style-type: none"> • • The directly identifiable cost shall be directly attributed to cost / profit centres e.g. training cost specific for a / product / network service or network element, etc. • • The illustrative list of allocators for HR or personnel department are: <ul style="list-style-type: none"> ▪ ▪ Full time employees or equivalent employees ▪ ▪ Manpower cost for various services or products/network services or network elements, etc. • • The unattributable cost (if any) can be apportioned using general allocator.
Administration	<ul style="list-style-type: none"> • • The directly identifiable cost shall be directly attributed to the various profit / cost centre network elements / products/network services as discussed above, e.g. rents, lease rentals, electricity, etc. • • The illustrative list of allocators for the remaining expenses of administration department are: <ul style="list-style-type: none"> ▪ ▪ Full time employees or equivalent employees ▪ ▪ Manpower cost for various services or products/network services or network elements ▪ ▪ Area (square feet) / floors occupied by various cost / profit centres • • The unattributable cost (if any) can be apportioned using general allocator.
Maintenance	<ul style="list-style-type: none"> • • Maintenance costs include engineers' and non-engineers' salary, stores and spares and other operating costs. • • Stores and spares can be directly allocated based on stores and spares issued and consumed by various network elements /support plant and as recorded in the stores ledger. • • Annual maintenance charges can be allocated directly to various network elements / support plant for which it has been incurred specifically. • • Maintenance paid to third party for repair of any specific assets can be directly attributed to the network

Cost	Apportionment basis
	<p>element</p> <ul style="list-style-type: none"> • • Maintenance cost which cannot be identified to any specific asset such as salary, common AMC charges, etc. can be attributed to various network elements based the following parameters as appropriate: <ul style="list-style-type: none"> ▪ ▪ Capacity ▪ ▪ Usage ▪ ▪ Capital cost (Net Book Value), etc ▪ ▪ Number of break downs ▪ ▪ Time spent on each element • • The unattributable cost (if any) can be apportioned using general allocator.
Marketing and sales	<ul style="list-style-type: none"> • • Costs of advertisement, publicity and market research for specific service / product / network service can be directly attributed to those services or product/network service • • Common cost of advertisement, publicity and market research can be apportioned using analyses of number of advertisement / publicity campaigns or contracts undertaken. • • Cost of retail outlets can be apportioned to products/network services on the basis of a staff activity analysis, supplemented by analyses of sales / business obtained for each service / product / network service. • • Cost of commission agents can be apportioned based on turnover achieved for each service / product / network service / commission rates applicable • • Cost of bad debts or provision for bad debts can be directly attributed to various products/network services through analysis of bad debts (to the extent these are material). The residual cost can be apportioned based on past experience or on actual analysis of directly attributable bad debt cost. • • The unattributable cost (if any) can be apportioned using general allocator.
Customer Service	<ul style="list-style-type: none"> • • Costs of product/network service specific customer service centers can be directly allocated to the products/network services to the extent specifically used e.g. in case of outsourcing of customer care services, call centre cost, operator related services, etc. • • Costs of multi product/network service customer service centres can be analysed by operation type and further analysed to services, products/network services and network elements using appropriate data / sampling

Cost	Apportionment basis
	<p>data (e.g. numbers of faults obtained from the engineering database, number of calls attended, number of complaints, attached etc.).</p> <ul style="list-style-type: none"> • • The unattributable cost (if any) can be apportioned using general allocator.
Billing	<ul style="list-style-type: none"> • • Billing staff costs can be initially analysed by operation type and apportioned to products/network services and network elements using appropriate data such as number of bills raised for each service / product/network service or other relevant data e.g. number of subscribers. • • Cost of out-sourced services can be allocated based on analysis of data such as number on bills raised / number of subscribers etc. • • The unattributable cost (if any) can be apportioned using general allocator.
Legal / Regulatory	<ul style="list-style-type: none"> • • Cost of legal and other professional fees paid for specific service or product/network service would be allocated to the same. • • In case of common expenses or expenses of general nature may be in the nature of unattributable cost and apportioned to services based on general allocator. • • The unattributable cost (if any) can be allocated using general allocator.
Quality	<ul style="list-style-type: none"> • • Cost of quality checks can be apportioned by using sample activity analysis of the staff. • • The unattributable cost (if any) can be allocated using general allocator.
Planning and development	<ul style="list-style-type: none"> • • Planning costs, which relate to planning networks can be identified and allocated to specific elements. • • Planning and development costs can be apportioned to network elements on the basis of staff activity analysis • • Costs of research and development projects carried out by the relevant specialist unit can be allocated or apportioned to service / products / network services / network services and network elements on a project-by-project basis. • • The unattributable cost (if any) can be allocated using general allocator.
Information technology / EDP / software maintenance	<ul style="list-style-type: none"> • • The cost for IT / EDP department can be allocated using the sample analysis of activities undertaken. • • The unattributable cost can be apportioned using general allocator.
Insurance	<ul style="list-style-type: none"> • • Insurance charges paid for specific service / product

Cost	Apportionment basis
	<p data-bbox="613 149 1346 216">/ network service / network elements would be allocated to the same directly.</p> <ul style="list-style-type: none"> <li data-bbox="565 226 1346 401">• • In case of group / common insurance the policy, cost of insurance unit can be attributed to services / network elements based on value of the assets insured / number of employees insured from each segment etc. as relevant.
Finance and accounts	<ul style="list-style-type: none"> <li data-bbox="565 447 1346 552">• • Cost of finance and accounts department can be allocated to cost / profit centres based on total expenses booked during the period/ based on funds allocated etc.
Stores / Logistics	<ul style="list-style-type: none"> <li data-bbox="565 562 1346 898">• • This category includes the costs of tools and small stores and their procurement cost. <ul style="list-style-type: none"> <li data-bbox="613 642 1346 747">▪ ▪ Expenditure on tools and small stores can be apportioned on the basis of stores issued and consumed as recorded in the stores ledger. <li data-bbox="613 758 1346 898">▪ ▪ The costs of the logistic / procurement unit can be analysed by project and apportioned either directly or on the basis of the project or maintenance cost of the various network elements.
Circle office	<ul style="list-style-type: none"> <li data-bbox="565 909 1346 1052">• • Circle office cost (to the extent not covered by the functions apportioned separately) can be treated as unattributable cost and apportioned using general allocator.
Corporate office	<ul style="list-style-type: none"> <li data-bbox="565 1062 1346 1197">• • Corporate office cost (to the extent not covered by the functions apportioned separately) can be treated as unattributable cost and apportioned using general allocator.

Notes:

- 1 1 The cost of support functions are to be allocated to the following cost centres and profit centres:
 - • Support plant
 - • Network elements
 - • Products/network services.
- 2 2 From the point of simplicity, the cost of support functions may not be apportioned to the other support functions, as it would involve iterative allocation process.
- 3 3 The general allocator can include ‘total cost for the cost centre’, ‘revenue’, ‘contribution’, etc. as considered appropriate.

ALLOCATION METHOD FOR SELECT NETWORK ELEMENTS

1. 1. As an overall principle, the network cost shall be apportioned to the products/network services based on the usage as appropriate (say in terms of minutes / bandwidth / subscriber base etc.)
2. 2. This appendix provides indicative allocation methods that can be used to allocate / apportion cost of various network elements to various services / products/network services.

BASIC SERVICE OPERATOR

Access component

3. 3. The cost of network element pertaining to access shall be allocated to various types of access such as PSTN, ISDN, VPT, etc. on the following basis:
 - • The directly identifiable cost shall be allocated to corresponding access type
 - • The common cost or cost of common network can be appropriated on the basis of number of subscribers.

Exchange equipment including Local exchanges, Tandem, Tandem cum local exchange

4. 4. The apportionment approach identifies the division of total exchange costs between Access (connections) and the Local Exchange switching component (traffic and usage for calls).
5. 5. The cost of local exchange shall be apportioned initially to traffic sensitive and non-traffic sensitive as mentioned above. The cost of traffic non-sensitive portion is to be allocated to access. The cost of traffic sensitive part is to be apportioned to various products/network services.
6. 6. The main cost drivers are subscribers, types of calls and minutes of use for each type of call or a mix of these:
 - • Subscribers / *Connections* - the cost of non traffic sensitive part of the exchange that has the function of providing access to the network is apportioned on the basis of number of subscribers;

- • *Type of calls / Traffic* – the cost of traffic sensitive part of the exchange can be attributed to different types of calls based on minutes of usage.
7. 7. The total cost of SDCA network may be apportioned to various types of calls based on total usage to work out the average cost per unit. However the usage for each network element for various products/network services may not be uniform. For example, the element usage for an intra exchange local call would be different from that for an intra circle travelling a path through multiple exchanges within SDCA. In that case, the usage by various products/network services has to be worked for each element based on a sample analysis.

Transmission

8. 8. The transmission cost can be allocated following the steps mentioned below:
- • The total transmission cost can be divided by the total bandwidth to arrive at the cost per bandwidth.
 - • The cost corresponding to the leased circuits can be allocated based on the total bandwidth leased.
 - • The residual cost can be allocated to other products/network services (call charges) based on the minutes of use as calculated in the above example.

Intra circle network cost

9. 9. The intra circle network is primarily involved in transmission of inter-SDCA and other long distance calls.
10. 10. The cost of intra circle network is allocated to Basic Telephone Service segment and NLD service segment based on the usage of the intra circle network elements. The usage of each network element for various products/network services may not be uniform as explained above for SDCA network. In that case, the usage by various products/network services has to be worked for each network element based on a sample analysis.
11. 11. The transmission cost can be allocated to leased circuits on the same basis as provided in paragraph 8 above.

NATIONAL LONG DISTANCE

12. 12. The total usage for NLD network shall be arrived at by monitoring the traffic at all the trunk exchanges.
13. 13. The minutes of usage recorded for all the types of calls shall be used for allocation of the cost of network elements.

14. 14. The transmission cost shall be allocated to leased circuits on the same basis as provided in paragraph 8 above.

INTERNATIONAL LONG DISTANCE

15. 15. Monitoring the traffic at all the international gateway can arrive at the total usage for ILD network.

16. 16. The minutes of usage recorded for all the types of calls can be used for allocation of the cost of network elements.

17. 17. The transmission cost can be allocated to leased circuits on the same basis as provided in paragraph 8 above.

CELLULAR MOBILE TELECOM SERVICE (CMTS)

18. 18. The network elements for cellular mobile services have been broadly classified as under:

- • Shared network elements i.e. the entire network commonly used for providing all the products/network services. These include main switching centre (MSC), base control station (BSC), BTS, etc.
- • Dedicated network elements i.e. network element used for providing only specific sub services or products/network services, e.g. SMS server, GPRS server, etc

19. 19. The cost of common or shared network can be attributed to respective products/network services based on the total minutes of usage for each type of product/network service recorded at the main switching centre (MSC).

20. 20. In case of CMTS usage for all products/network services can be recorded in minutes with exceptions such as SMS. The operators therefore shall have to arrive at a norm for converting the SMS into equivalent minutes of usage for allocation of costs.

21. 21. The cost of dedicated network element can be directly and fully attributed to the service for which it is used.

INTERNET SERVICE PROVIDER

22. 22. The network elements of Internet Service Provider are broadly classified as under:

- • Central Network Elements, which include Internet international gateway (like International Private leased Circuit, Satellite link etc.) and shared network elements, which include payment gateway, authentication server, and enterprise, network management software etc. These network elements are shared by all the products/network services/nodes.

- • Node elements include joint node network elements and dedicated node network elements. All the types of products/network services share joint node network elements like routers, switch, LAN. Dedicated node network elements are dedicated to each type of product/network service.
 - • Access elements include network elements, which are dedicated to each type of product/network service.
23. 23. The cost of central network elements can be allocated on the basis of total bandwidth deployed for each product/network service/service at the Internet international gateway. The total bandwidth will be inclusive of both domestic and international bandwidth.
24. 24. The cost of joint node network elements at each node can be attributed to each type of service on the basis of bandwidth allocated to the service at the respective node. The cost of dedicated node network elements can be allocated to the respective services directly.
25. 25. Access network can be dedicated to a particular type of service and the cost of access network will be attributed directly to the type of service.

VERY SMALL APPARTURE TERMINAL, RADIO PAGING AND PUBLIC MOBILE RADIO TRUNKING SERVICE (PMRTS)

26. 26. In case of services like VSAT and PMRTS, the total network cost shall be allocated to the products/network services as these are integrated services and the network elements are used for providing a single service.

Annexure 5

ALLOCATION METHOD FOR CAPITAL EMPLOYED

Account heads	Attribution method
Fixed assets	<p>Fixed assets are to be allocated/ apportioned to four broad categories:</p> <ul style="list-style-type: none"> • • Network elements • • Support plant • • Support functions • • Products/Network Services <p>As far as possible, assets would have to be reported against the category that they represent or support. The assets, which cannot be directly and uniquely associated with a cost centre or profit centre are to be apportioned</p>

Account heads	Attribution method
	<p>to cost centres according to appropriate, cost drivers.</p> <p>Land and building, which can be directly attributed to a cost centre, shall be allocated to that cost centre. For example a building in which an exchange is situated or a building in which customer service is located can be allocated directly and fully to the local exchange cost centre (under Network cost centre) or customer service as the case may be.</p> <p>In instances where the land and building are shared or commonly used, the capital cost can be identified to various cost centres / profit centres based on cost driver such as floor space occupied etc.</p> <p>Plant and machinery cost which can be directly attributed shall be allocated to that cost centre. For example the cost of switch can be directly identified to a local exchange or a trunk exchange based on the function it performs. Similarly a CMTS operator can identify the SMS server to that network element.</p> <p>In case of shared machinery / network elements the capital cost shall be allocated based on appropriate cost driver such as usage, in terms of length/ minutes/ band width etc.</p>
<p>Current assets and liabilities</p>	<p>Current assets and liabilities are to be allocated to ‘Net work elements (including support plant)’ and ‘Others’ (i.e. relating to Products/Network Services, support functions etc.).</p> <p>Current assets and liabilities would be directly attributed to ‘network elements ’ or ‘others’ wherever possible.</p> <p>For example, specific debtors, creditors, stocks and provisions would be directly allocated to the network segment to the extent identifiable.</p> <p>The attribution methods for the specific heads of current assets and liabilities are provided below.</p>

Account heads	Attribution method
Stocks	<ul style="list-style-type: none"> • • The bulk of stocks relates to network (subscribers equipment, modem, store and spares, etc.) and can be directly allocated to network. • • All other stocks / store and spares pertaining to support function shall be allocated to others. For example motor transport spares, computer spares, etc.
Debtors	<ul style="list-style-type: none"> • • Debtors are analyzed by type –Trade debtors can be broadly classified under two main categories i.e. ‘network’ and ‘others’. Generally the debtors would relate to ‘Others’ • • The debtors can be directly identified to different services to which they pertain and in case there is no direct identification, they can be allocated to various services on the basis of the relevant turnover. • • In some cases the debtors for a particular service may be common for various geographical areas. The debtors for particular geographical areas would be directly identified to the areas in which they have accrued or to which they pertain and in case there is no direct identification, it can be allocated to various geographical areas on the basis of relevant turnover. • • Accrued income shall be allocated on the basis of relevant turnover by billing system.
Cash at Bank and in hand	<ul style="list-style-type: none"> • • Cash and bank balances can be apportioned on the basis of total operating cost (i.e. other than depreciation and other amortised costs) of ‘network’ and ‘others’.

Account heads	Attribution method
Loans and advances	<ul style="list-style-type: none"> • • Loans and advances can be allocated to network based on direct identification wherever possible otherwise it can be allocated based on the total operating cost of 'network' and 'others'.
Current liabilities	<p>Creditors would be analysed by creditors type from the general ledger codes and appropriate apportionment bases to be then applied:</p> <ul style="list-style-type: none"> • • Trade creditors can be apportioned to 'network' and 'others' on the basis of total costs excluding salary and depreciation. • • Capital creditors can be allocated to 'network' and 'other' on the basis of the fixed assets additions during the year. • • Payroll creditors can be allocated to 'network' and 'others' on the basis of total pay of the relevant units. • • Other creditors can be allocated to network and other using bases appropriate to the particular creditor type.

Glossary

1. 1. **Capital employed** - Capital employed is the value of the [assets](#) that contribute to a company's ability to generate operating [revenue](#). Mathematically, it is net [fixed assets](#) plus [current assets](#) minus [current liabilities](#). For the purpose of accounting separation, it does not include assets and liabilities related to assets under construction.
2. 2. **Cost of capital** - The [opportunity cost](#) of an [investment](#), i.e. the [rate of return](#) that a company would otherwise be able to earn at the same [risk](#) level as the investment that has been selected.
3. 3. **Cost of sales adjustment (COSA)** – This represents the difference between the value to business of the stock consumed during the period and its historical cost.
4. 4. **Cost volume relationship (CVR)** – It expresses the relationship between cost on the one hand and volume of the relevant cost driver on the other. Cost-weighted independent cost categories do not have an exogenously defined cost volume relationship.

5. **5. Current assets** – Cash and other assets that are expected to be converted into cash or consumed in the production of goods or rendering of services in the normal course of business.
6. **6. Current cost accounting (CCA)** – This is one of the cost accounting methods where assets and liabilities are valued at the current costs and it measures the profit or loss after matching current costs with current revenues. Several adjustments are required to the historical costs to arrive at CCA based cost statements.
7. **7. Current liabilities** – Liabilities including trade liabilities, loans and deposits which fall due for payment in a relatively short period, normally not more than twelve months.
8. **8. Financial Capital Maintenance (FCM)** – This is one of the approaches to CCA. It views capital in financial terms (the value of shareholder's equity interest). It considers that financial capital for the company is maintained in the current price terms. Capital is assumed to be maintained in real terms at the same level as at the beginning of the period.
9. **9. Fixed Asset** – Asset held for the purpose of providing or producing goods or services and that is not held for resale in the normal course of business.
10. **10. Fully allocated cost (FAC)** – This is one of the methods used for allocation/ apportionment of costs to different services/ network elements. It is based on the principle of complete allocation of all the business costs to different services/ network elements.
11. **11. Geographical area** - Geographical area for a service is an area for which separate accounts are to be prepared as per SAS. The geographical area for each of the service for which SAS has to be implemented is mentioned in chapter 3.
12. **12. Gross book value (GBV)** - This is historical cost of a fixed asset in the books of account or financial statements. When this amount is shown net of accumulated depreciation, it is termed as Net Book Value.
13. **13. Historical cost accounting (HCA)** – This is the conventional accounting method, wherein assets are valued and depreciated at the cost recorded at the time of their purchase.
14. **14. Long run incremental cost (LRIC)** – This is the incremental cost that arises in the long run with a specific increment in volume of production.
15. **15. Modern equivalent asset (MEA)** – This is the value of a currently available asset with same level of capacity and functionality.

16. **16. Monetary working capital adjustment (MWCA)** – It reflects the amount of additional or reduced finance needed for monetary working capital as a result of changes in the input prices of goods and services used and financed by the business.
17. **17. Operating Capital Maintenance (OCM)** – This is one of the approaches to CCA. It views capital in operational terms (company’s capability to produce goods and services). It considers the company to have as much operating capacity in the end of the period as in the beginning.
18. **18. Product/Network Service** - Product/Network Service is a sub-service within a service, which is priced or regulated separately and for which separate profit and loss statement, is to be prepared. Products/Network Services for each of the service for which SAS has to be implemented are mentioned in chapter 3.
19. **19. Related Companies** – If a company has the ability to control the other company or exercise significant influence over the other company in making financial and/or operating decisions.
20. **20. Retail revenue** - Revenue from end-user / subscribers. The total retail revenue divided by the number of subscribers/ users represents the average retail revenue per subscriber/ user.
21. **21. Return on Capital Employed (RoCE)** - A measure of return from [capital](#) employed of an enterprise. Mathematically, it is [profit](#) before interest and tax divided by the capital employed. In the ‘Statement of Total Capital Employed’ and the ‘Network Cost Sheet (element wise), the RoCE represents the cost of capital employed, to work out the total cost (i.e. including RoCE). In the ‘Profit and Loss Accounts’, the RoCE has been expressed as the actual return achieved from operations.
22. **22. “Toll Quality Service” and “Below Toll Quality Service”** shall have the same meaning as laid down in regulations issued by authority, from time to time, under sub-clause (b)(v) of sub-section (1) of section 11 of TRAI (Amendment) Act 2000.
23. **23. Weighted average cost of capital (WACC)** - Weighted Average Cost of Capital is a method of establishing an organization’s cost of capital by taking each source of funds from its balance sheet and assigning a Required Rate of Return to each individual source. The amounts of each of the sources of funds are used as weights applied to the Required Returns, and the total return is divided by total weights to give the WACC (expressed as a percentage). The term WACC for the purpose of accounting separation would be taken Pre-tax weighted average cost of capital. Mathematically,

$$\text{Pre Tax WACC} = \frac{Re * \omega_1}{(1-T)} + Rd * \omega_2$$

where, R_d = Cost of debt, R_e = cost of equity capital, T = Corporate Tax rate, ω_1
= *proportion of equity in capital structure*, ω_2 = *proportion of debt in capital*
structure and $\omega_1 + \omega_2 = 1$

24. **Wholesale revenue**- Revenue from other operators for interconnection charges and other network services.
25. **Working capital** – This is the excess of [current assets over](#) current liabilities.