

**Consultation Paper No. 2000/1**

**TELECOM REGULATORY AUTHORITY OF INDIA**

**Consultation Paper**

**On**

**Accounting Separation**

**And**

**Formats For Accounting/ Regulatory Statements**

**May 4, 2000**

**TELECOM REGULATORY AUTHORITY OF INDIA**

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## PREFACE

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

TRAI has carried out an elaborate exercise on tariff re-balancing last year, based on cost data for fixing tariffs. First phase of this exercise culminated in the release of the Telecommunication Tariff Order 1999. Before implementation of the second phase, a review is to be undertaken.

**During the tariff re-balancing exercise, it was felt that cost allocations for different services in an integrated services network is quite a difficult task. Lack of source-wise unbundled cost data proved to be a major constraint in determining the cost of the service. In the light of this experience, and the mandate as provided for in the TRAI Act 1997, as amended by the TRAI (Amendment) Act 2000, that every service provider shall maintain such books of accounts or other documents as may be prescribed as per Section 12(3) and Section 35(2)(d) of the Act, this Consultation Paper initiates the process of laying down the accounting guidelines in respect of reporting requirements for financial monitoring of the service providers. This exercise is aimed at evolving methodologies for preparation of accounts in a manner which will facilitate the availability of detailed information on the costs allocated to different services. This would also help the regulator in identifying the instances of cross subsidization of services and strengthen the TRAI's capabilities to provide regulatory supervision in an increasingly competitive telecom market, thereby enabling the Authority to make regulatory decision based on accurate cost data. The**

exercise has, therefore, immense value for development and growth of the telecom sector.

Accounting practices to be developed by service providers based on this consultative exercise would be utilized by them for the maintenance and compilation of separate accounts for reporting to the Regulator. These practices are not meant to impinge on the prevailing statutory guidelines for financial reporting, which would continue.

This Consultation Paper has been prepared after interactive exercises including workshops with participation of representatives of DOT, DTS, MTNL, VSNL, ABTO and COAI to understand the existing accounting practices. During the preparation of this Paper, valuable inputs were obtained from Canadian agencies including the Canadian Radio-television and Telecommunications Commissions (CRTC) under an ongoing Technical Assistance Program assisted by the Canadian International Development Agency (CIDA) as well as from other international sources.

I hope this consultation paper would generate useful inputs from all stakeholders – service providers, consumers and consumer organizations, financial institutions and banks etc., who will no doubt give their valuable suggestions. I request that written comments on this Paper may please be furnished to the Secretary, TRAI by 2<sup>nd</sup> June 2000. For any further clarifications in the matter, Joint Secretary (Commercial) or Director (Commercial), TRAI may be contacted on Telephone No. 3316782 and 3356525 respectively (Fax Nos. 3738708, 3356083) [e-mail [traid@del2.vsnl.net.in.](mailto:traid@del2.vsnl.net.in)]

(M. S. VERMA)

CHAIRPERSON

New Delhi  
May 4, 2000

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**Accounting separation enables the operator to get a snap shot on the overall performance of its different business activities**

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## **EXECUTIVE SUMMARY**

### **Background**

1. The objective of this Consultation Paper is to debate issues relevant to accounting practices and reporting requirements for financial monitoring of service providers. The exercise is aimed at developing the Accounting Manual with methodology for preparation of separate accounts to facilitate the availability of more detailed information on the cost base with greater transparency in operations especially in regard to cross-subsidization of service segments.
2. *The TRAI Act 1997, as amended by the TRAI (Amendment) Ordinance 2000, mandates that every service provider shall maintain such books of accounts 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 accounts or other documents, which are to be maintained (Refer Section 35 (2)(d)). This consultative exercise is meant to provide inputs to the Government for notification of appropriate Rules in the matter.*
3. Information on market segments and segment profitability is critical to developing effective competitive responses from the regulatory as well as business perspective. The Paper is expected to enhance the understanding and commitment of service providers in developing capabilities in their accounting systems, which would generate more accurate information of dis-aggregated activities for regulatory and management purposes to analyze the costs, revenues and capital employed.
4. The accounting practices to be applied by service providers for the compilation of separate accounts are meant for regulatory reporting. These guidelines are not intended to impinge on the prevailing guidelines for statutory financial reporting.
5. The accounting practices are not intended to provide a set of comprehensive rules that each service provider must follow. Individual service providers will need to develop their own allocation procedures to apply these concepts to their costs, revenues and capital employed for generating the required regulatory reports.

### **Information Needs and Accounting Separation**

6. 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 for:

- •measuring financial performance of products and services;
- •monitoring licensees' returns on products 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.

7. *Aggregated information has its limitations for the purposes of regulatory decision making such as for tariff and cost analysis. Accounting Separation is, therefore, significant from the regulatory perspective in a multi-operator environment. It sets out the accounting requirements for the segments for which the Authority requires financial information.*

8. *In the case of an incumbent/ dominant operator, the accounting separation would enable costing details relating to different activities. It would encourage confidence in the cost allocation and attribution methodology by making it transparent. This would also ensure that the costs related to interconnection services are clearly identified and separated from the costs of providing other services; services provided internally (from one activity within the incumbent to another) are provided on similar terms to those offered externally.*

9. *In a converged environment, any network may be able to offer any service. Accounting separation would enable an assessment to be made of potential distortions where differing pricing rules apply to different networks offering bundled services.*

10. *The accounting-separation methodology lays down the concepts, approach and practices for attributing revenues and costs, captured in entity accounting, to individual products and services, or aggregations thereof. All revenues and costs reported for the licensed entity are dis-aggregated to determine the profitability of retail and inter-service provider segments. Following concepts are relevant in the context of accounting separation:*

- •Assignment and allocation;
- •Cost classifications; and
- •Distribution of costs

11. *The New Telecom Policy 1999 (NTP 1999) envisages one time entry fee and the license fee as a percentage of revenue sharing for a number of categories of new entrants to the telecommunications market. TRAI is required to make recommendations in the matter. An objective of this nature also requires specific costs and earnings information related to the incumbent (DTS/ MTNL) and new entrants to the relevant market segments. The accounting systems presented in this Paper offer the most effective way to obtain such relevant information. Once these systems are set up, it would considerably ease the task of handling similar references in future.*

## **Cost Concepts**

12. **The Paper presents costing concepts based on two systems namely, Broad Financial Category Costing (BFCC) and Service Specific Costing (SSC).** These concepts are equally applicable to the incumbent (Department of Telecom Services/ MTNL) as well as to new entrants in basic/ cellular mobile services. The concepts may also be applied in respect of operators of other services.

12. **BFCC provides a framework to identify the sources and recipients of cross subsidies among broad categories of existing services (i.e. particularly the existence, if any, of a cross- subsidy of competitive categories by monopoly categories).Its procedures assign a service provider’s total realised revenues and costs among a few broad categories of services.These results are summarised in a presentation of revenue surpluses (shortfalls) for each category reconciled to the service provider’s income statement.All existing categories are grouped into broad categories.This system is extremely useful for monitoring rate re-balancing initiatives and it supplies initial pre-requisites for exercising regulatory forbearance.It also helps in establishing benchmarks for access deficit data used in setting contribution charges.**

13. *SSC provides a framework for comparing alternative courses of action (i.e. particularly the introduction of new services) in order to determine the one that is most attractive from an economic point of view.Its procedures estimate streams of future revenues and costs caused by the introduction of a new service.The results are summarised in a net present value (NPV) (i.e. the present worth of all cash inflows minus all cash out flows).It can also provide useful inputs for decision making connected with significant changes in the pricing of an existing service.*

14. Salient features and more information on the relevance of the two costing systems are as under:

### **Broad Financial Category Costing (BFCC)**

15. BFCC, sometimes also known as Broad Service Costing, is a technique for viewing a service provider’s financial results across a limited number of predetermined business segments. The results from this activity provide an indication year over year of the service provider’s financial performance within each of the Broad Service Categories.

16. *BFCC provides a measure of the success of strategic regulatory and business decisions, detects potential cross subsidies between major business segments, and measures the changes in the financial results of business segments caused by technology, market conditions, business decisions or other external pressures.*

17. *BFCC can be used to measure both the existing service provider and new entrants. It is important that there is a common system of measurement and reporting across all participants in the industry.There should be a general agreement on guidelines for expensing and capitalizing expenditures; service levies for depreciable assets and other key accounting conventions.*

18. *BFCC will enhance the efforts of the TRAI in ensuring that a viable modern telecommunications industry develops in the Indian environment. The techniques described in this Paper will allow the TRAI to monitor the financial capability of the industry participants in achieving the challenging goals specified in the framework of NTP 1999. This information must be supplemented with demand forecasts, market assessments and construction program plans (normally spread over five-year period) and other information, which may be requested by the TRAI from time to time.*

### **Regulatory Concepts used for Developing Broad Financial Categories**

19. *As an illustrative example the incumbent, i.e. the DTS would be required to split their long distance market into National Long Distance and International Long Distance. The residual telecommunications markets should be split between Urban and Rural*

following the definitions used to establish the urban and rural tele-density objectives in the NTP 1999. The Urban and Rural Categories should be segregated between residential and commercial categories with further classification into **Access, Local and Other services**. The 'Other Services' Category would include causal costs associated with other non-telecommunication services, such as rental of premises to outside parties.

20. National Long Distance should be split between Intra-Circle and Inter-Circle Long Distance. National and International Long Distance categories should be further split between Long Distance and Other Long Distance Services. The Other Long Distance services Category may include leased lines, value-added services and others not defined as basic Long Distance.

21. The Access Category may include all the non-usage sensitive costs associated with providing Local Service from the customer's premises to the local switch.

22. The Rural and Urban Other Category may include all value-added services and other services provided to the Local Service customer but not defined as Local or Access service.

23. There will be a Common Category to include costs, which can not be causally related to a particular service category and are shown as fixed.

24. **Similar splits will have to be done for MTNL and the new entrants who are providing facility based access services.**

25. The service providers and other interested agencies will be required to work with the TRAI to establish the basis against which to benchmark the financial achievements of the various companies. This would be useful in the context of tariff fixation. The system would also provide the regulatory oversight in the short and medium term to ensure investment outside the high profit urban locations.

### Methodologies to Determine Revenues & Costs by Broad Financial Category

26. Once the conceptual framework for a BFCC approach has been accepted, there is a need to specify classification and assignment guidelines to translate this conceptual framework into an operational costing system. **Chapter 2** sets out in detail the proposed classification and assignment guidelines. Based on comments on this Consultation Paper, these guidelines could be amplified and modified.

27. The TRAI acknowledges that once such guidelines are finalized, there is much work remaining for each service provider to document its BFCC procedures and produce the first set of Broad Category results. Moreover, there will be a need for the TRAI to conduct a process to approve the BFCC procedures and specify appropriate ongoing audit and updating processes. That being said, the effort to create a BFCC system suited to the context and circumstances of India's telecommunications sector begins with the guidelines set out in this Consultation Paper.

28. An operational BFCC system requires the specification of detailed procedures designed to assign a service provider's plant investment, revenues and costs among the broad categories seen as most appropriate to the Indian context.

29. The assignment of a service provider's plant investment uses direct assignment where possible but large portions of a service provider's plant are jointly used. The study methods must, therefore, be developed employing network usage and other measures to assign the appropriate portions of such jointly used plant to the Broad Categories.

30. Generally speaking, the assignment of a service provider's revenues is straightforward. First, each service provider's tariffed services are examined and assigned to the appropriate Category and accordingly the matching revenues recorded in the accounting records are assigned.

31. The capital employed in tangible assets such as, primary plant consisting of switching and transmission equipment, other primary network assets, support plant etc. may have to be assigned to provide the basis for allocating all plant related expenses. In many situations, it has been observed that these expenses often represent more than 65 per cent of a service provider's total operating expense.

32. The remaining operating expenses comprise, in large measure, the salaries and wages of a service provider's staff performing functions other than the provisioning and maintenance of the plant. Assignment of these expenses, account by account, requires an analysis of the employees' work activities in relation to the Broad Categories and the selection of a measurable aspect of these activities that can be causally linked to the Categories.

33. Once the expense accounts for the main staff activities are assigned, expenses of other support activities (e.g. training, personnel) can be assigned in similar proportions.

34. Finally, the BFCC approach recommended in this Consultation Paper makes provision for a Common Category to accommodate any residual overhead expenses that have no identifiable causal link with a particular service category. (Similar BFCC systems adopted in Canada provide for approximately 5% of total expenses in this category).

### Reporting Requirements and Broad Accounting Guidelines

35. Accounting Statements will have to be provided annually for:

- the prior accounting year;
- a projection of the next year's results;
- an update of the current year's results.

36. Annual reporting is appropriate as it corresponds to the normal planning cycle of the companies. Plans are formulated and reports are prepared for the shareholders and other stakeholders on an annual cycle. Quarterly or semi-annual reporting of such broad information is not required and tactical business decisions can be handled more effectively with other techniques. To go longer than one year would not allow the regulator to review the impact of significant strategic changes, which are usually represented in a company's annual budget plan.

37. The financial year (1<sup>st</sup> April to 31<sup>st</sup> March) should typically be taken as the accounting year. An operator may effect a change in its accounting year resulting in an extended accounting period during this transition. Segregation of accounts on 12-month basis would be relevant even in such situations. The service providers should also file, on an annual basis, a five-year plan for investment in the telecommunications infrastructure.

38. The companies will be required to prepare a Category Costing Manual, which will provide a detailed description of how the costing information will be developed using the techniques described above. This Manual will be filed with the TRAI and subject to approval of the Authority. The Manual will be updated periodically to reflect changes in company structure, technological innovations, organizational changes, improvements in costing techniques or any other change the company may find appropriate. Changes to the Manual will require approval of the TRAI.

39. The companies must ensure that the Broad Financial Category Cost results balance to the audited financial statements. An independent auditor will be required to attest that the filing was prepared in accordance with the specifications laid out in a company's Category Cost Manual.

### **Service Specific Costing (SSC)**

40. SSC is designed to provide practical, credible and cost-effective economic support for tariff setting and economic decision-making for both business and regulatory decision-makers.

41. The cost inclusion principle is that all service provider costs that are incurred or that vary as a result of the introduction of a new service / product or of a significant change to an existing service / product must be included as costs of that service / product or significant change.

42. Service Specific Costing (SSC) is a methodology that compares the prospective revenue and cost streams associated with a service or product. The comparison is between the present value of the revenue stream and the present value of the cost stream, using an appropriate discount rate. Generally the present value of the revenues must equal or exceed the present value of the costs (Net Present Value =, > 0). **Chapter 3** contains full discussion on the subject.

43. Since SSC is intended to deal with the assessment of future events, it must rely on estimates of the future revenues and costs associated with those events. In turn, it must be possible to obtain reliable estimates of such revenues and costs. On the cost side, the engineering and planning groups of the service providers develop such forward-looking estimates on a routine basis by the very nature of their work. This is generally true of the capital elements of the service or product.

44. The labour elements are more of a challenge in instances where labour force costs are not available on a functional or an activity basis.

45. The effective implementation of SSC will require a joint effort between the TRAI and the service providers to ensure that the Indian environment and its requirements are fully respected. This joint effort will encompass the accounting systems, the engineering and planning systems, labour and related management systems, and billing and analysis systems.

### **Methodologies Used for Determining the Cost Base for Specific Services**

46. This discussion assumes appropriate changes to the recording and accounting systems and the establishment of new capital and expense categories to facilitate analysis and tracking following the cost classification system outlined below.

47. Some review and modification of the Expense accounts associated with staff and technical salaries, benefits, and other personnel related activities and functions will be required. Special studies may be needed to provide the minimum levels of disaggregation by function (e.g., customer service request) and / or activity (e.g., order processing, line connection, premises visit, premises work, etc.).

48. The initial goal should be to define the functions that must be costed. Suggested functions are:

- Administrative Expenses
- Operating Expenses

- •Customer Service Office;
- •Billing Office ( business and residence );
- •Repairs and Maintenance;
- •Construction and Installation of New Plant;
- •Employees Remuneration and Benefits;

49. *The short-term goal is to identify the overall cost information for a given function. Appendix 3-2 contains a short list of Functional Operating Expenses for the short term cost development activities and a detailed list of Functional Operating Expense items that could serve as a guide for future work. The long-term goal of dis-aggregation of the underlying activities can follow as time and resources permit.*

50. These functions can be addressed through loading on capital for such items as Maintenance or Planning. In the case of the other functions, there is a need to identify more appropriate demand and cost drivers that can be reliably estimated and tracked.

51. A program of Work–Time studies is proposed to develop more dis-aggregated estimates of direct and indirect operating expenses associated with the Functional Operating Expense categories listed in **Appendix 3-2**.

52. Longer-term solutions will involve changes to the underlying System of Accounts of some service providers in order to provide the appropriate capital and expense categories to facilitate the development of unit costs associated with these functions.

### *Reporting Requirements and Broad Accounting Guidelines for SSC*

53. *Since the purpose of Service Specific Costing is to provide information to the TRAI and to service provider management about the implications of implementing the proposed service / product, the reporting of the analytical results is important.*

54. *A standardized format is proposed to assure some degree of comparability between studies of a service at different times or places and to simplify the task of assessing the results.*

55. *The format is intended to address the major concerns of service provider management and of the regulator in as simple and direct a fashion as possible. There should be some scope for flexibility to address special circumstances that might dictate adding or omitting elements in the report.*

56. **Appendix 3-1** provides Definitions and proposed Directives regarding cost estimation for Service Specific Costing.

57. *All cost estimates, unless otherwise indicated, are to be developed on a current rupee basis. This requirement ensures both costs and revenues to be tracked are consistent and facilitates assessing the impact of the new service on the service provider's profitability.*

58. *The resource costs could be classified as follows:*

- *•Direct;*
- *•Indirect;*
- *•Variable Common;*
- *•Fixed Common.*

59. *All direct and indirect costs are to be assigned to the new service. The relevant proportion of variable common costs should also be assigned. Fixed common costs, by definition, are not specific service related. These will be handled as part of the tariff setting process, not the costing process. The service providers will have to identify and describe the direct and indirect resources required for implementation of a new service. The description of the indirect resources should include an explanation of their relationship to the direct resources. Similarly, the service providers will identify and describe the variable common cost proportion being assigned to the proposed service.*

### **Accounting Manual**

60. The consultations on this Paper are expected to result in formulation of the Accounting Manual that will prescribe TRAI's requirements in respect of the accounting and reporting practices to be adhered to by the Licensees for enabling the Authority to meet its regulatory objective. The accounting manual would delineate the accounting policies deployed by an operator in the preparation of accounts; a reconciliation of the separate accounts to the statutory accounts of the operator; and a matrix summarising the total transfer charges between different accounts. It would also include statements giving the basis on which unattributable costs have been allocated between different accounts and the cost allocation methodologies employed in order to prepare separate accounts.

61. Practical difficulties may arise in the preparation of separate accounts in accordance with the accounting concepts discussed in this paper. A range of techniques may be required to allocate and attribute operating and capital costs to different activities. However, these methods will get refined over a time frame of 2-3 years.

62. In accordance with the objectives of accounting separation, the operators will be required to prepare separate accounts for different network business activities and other activities. To start with, this may include both regulated and unregulated activities with detailed financial information.

63. The Accounting Manual is expected to serve as one of many tools to be used by the Authority to discharge its responsibilities. While the Accounting Manual would not seek to prescribe which revenues or costs are to be used by the Authority for particular purposes, the manual would contain an accounting of all revenues and costs, which could be relevant to a particular decision. The service providers would be free to follow their accounting and reporting requirements in respect of statutory and internal reporting. The Authority expects that positioning of these accounting practices and reporting requirements would enable the provision of structured framework to ensure a common approach to providing financial information to the Authority by each of the service provider on a timely, consistent, transparent and accurate basis. This would reduce the need for, and the work involved in conducting special studies to arrive at various

regulatory decisions. This would also facilitate the Authority's task in determining the sustainability and financial viability in terms of growth and performance for different services. While the Accounting Manual would apply to all licensees, the Authority may waive certain reporting requirements of the manual at its discretion.

64. *In addition, each service provider would prepare detailed procedure Manuals under the BFCC and SSC systems giving description of how the costing information will be developed using the prescribed methodologies and how the study results will be presented by each Licensee to implement the accounting and reporting practices prescribed in the Accounting Manual. These Manuals will require TRAI's approval.*

65. The reporting formats and the frequency of reports will be determined on the basis of these consultations with the approval of the TRAI.

### **Confidentiality of Information**

66. *Publication of relevant extracts of the accounting information may be warranted to make transparent the basis of price-setting, relationship between interconnection charges and costs, and to develop public confidence on provisioning of resources by operators on non-discriminatory cost based charges. Information that is proven to be commercially confidential would not be published. The TRAI may, however, disclose any such confidential information in public interest. However, before doing so, an opportunity would be afforded to the operator for objections, if any, to such public disclosure. The Authority may overrule such objections if considered necessary in public interest by recording reasons in writing.*

## **ANNEX TO THE EXECUTIVE SUMMARY**

### **PROPOSALS FOR DISCUSSION**

**Following specific proposals emerging out of the Costing Methodologies and other Concepts discussed in this Paper are presented for a debate.**

1. In keeping with the essentiality of information needs outlined in this Paper, what accounting practices and reporting requirements be prescribed for effective financial monitoring of service providers?
2. What Accounting Practices be adopted to minimise differences between the practices required to meet the TRAI's objectives and the practices that Licensees have to adopt to meet their internal and statutory requirements?
3. What should be the structure and format of the Accounting Manual to be prescribed by the TRAI?
4. In the context of the Costing Systems dealt with in this Paper, should methodologies for accounting guidelines and reporting requirements be developed on the lines mentioned in the following paragraphs?

#### ***Broad Financial Category Costing***

5. The TRAI proposes that broad financial categories could be developed on the following lines:

- a) The DTS and other service providers should split their long distance market segments into National Long Distance and International Long Distance.

- b) The residual telecommunications markets should be split between Urban and Rural with break up of residential / commercial consumers. The Urban and Rural Categories should be further split between **Access, Local and Other Services**.
  - c) National Long Distance should be split between Intra-Circle and Inter-Circle Long Distance. National and International Long Distance categories should be further split between Long Distance and Other Long Distance Services.
  - d) The Other Service Category may include causal costs associated with other non-telecommunication services, such as rental of premises to outside parties.
  - e) The Other Long Distance Category may include leased lines; value-added services and others not defined as basic Long Distance.
  - f) The Access Category may include all the non-usage sensitive costs associated with providing Local Service from the customer's premises to the local switch.
  - g) The Rural and Urban 'Other Category' may include all value-added services and other services provided to the Local Service customer but not defined as Local or Access service.
  - h) There will be a Common Category to include costs, which can not be causally related to a particular service category and are shown as fixed.
  - i) Similar splits should be done for MTNL and the new entrants who are providing facility based services.
6. The TRAI proposes that the new service providers file a business plan including a forward looking study for each of the major business categories identified as broad service categories. The business plan should include a forecast of capital expenditures, revenues, and expenses for at least five years.
  7. The service provider will file a revised five-year forecast each year including a comparison of the previous year's results to the previous forecast and to the revised forecast for the future years. An explanation of significant variances between forecasts and results and between forecasts by year should be provided.
  8. The TRAI proposes that it provide ongoing regulatory oversight to ensure investment in telecommunications infrastructure outside the high profit urban locations.
  9. The TRAI proposes the Broad Service Category information be filed on an annual basis in the form of an income statement and balance sheet and show earnings in total and a rate of return by category.
  10. Wherever a service provider is providing more than one service e.g., Internet, WILL, cellular, paging or related service along with wire-line facility from the same entity, it will be obligatory to segregate these services into separate categories or to assign them to the Other Category to ensure consistency between service providers.
  11. The TRAI proposes that the DTS must prepare a plan to introduce accrual based accounting procedures within a specified time frame. This will require DTS to inventory and value its assets and maintain ongoing asset records. This plan needs to be expedited with the intention that the revised accounting procedures are in place as quickly as possible.
  12. The TRAI proposes that the DTS should also develop a System of Accounts that assigns revenues and expenditures in a manner consistent with the need to assign the costs and revenues to the various categories needed to implement Broad Financial Category Costing.

13. The TRAI has proposed directives on depreciation and accounting procedures, which are attached to this Consultation Paper as Appendix 2-1. The TRAI invites comments on these proposed directives.

14. *The TRAI proposes that the following seven steps be used to assigning costs to the Broad Service Categories:*

- •Describe the categories in terms of facilities;
- •Assign the operating revenues;
- •Assign the telephone plant investment;
- •Assign the operating expenses associated with plant investment;
- •Assign operating expenses associated with employees activities;
- •Determine the net investment for each category to assign financial and income tax expense;
- •Report the results in the form required.

15. The TRAI proposes that accounting statements be provided annually for:

- •the prior accounting year;
- •a projection of the next year's results;
- •an update of the current year's expected results.

16. The TRAI proposes that the service providers be required to prepare a Category Costing Manual, which will provide a detailed description and procedure on how the costing information will be developed using the techniques described above. This Manual will be filed with the TRAI and subject to approval by the Authority. The Manual will be updated periodically to reflect changes in assignment procedures resulting from company structure, technological innovations, organizational changes, improvements in costing techniques or any other change the service provider may consider appropriate. Changes to the Manual will require approval of the Authority.

17. What would be a reasonable time frame for preparation of the Manual?

18. The TRAI proposes the reporting service providers ensure that the BFCC Accounting Statements balance to the audited financial statements. The Auditor will be required to attest that the filing was prepared in accordance with the specifications as laid out in a company's Category Cost Manual as well as in compliance with the Accounting Manual.

### *Service Specific Costing*

19. Should the cost-based pricing and decision-making in general, be based on the total long run incremental cost of providing the service?

20. The TRAI proposes that a standardized format, with standardized methodologies and procedures, be used to assure some degree of comparability between studies of a service at different times or places and to simplify the task of assessing the results.

21. *The TRAI proposes that all resource costs may be broadly classified as follows:*

- •Direct;
- •Indirect;
- •Variable Common;
- •Fixed Common.

22. The TRAI proposes that the service providers identify and describe the direct and indirect resources required for implementation of a new service. The description of the

indirect resources should include an explanation of their relationship to the direct resources.

23. Similarly, the service providers will identify and describe the variable common cost proportion being assigned to the proposed service.

24. The TRAI proposes that the initial goal should be to define the functions that must be costed. Suggested functions are:

- •Operating Expenses;
- •Customer Service Office;
- •Billing Office ( business and residence );
- •Repairs & Maintenance;
- •Construction and Installation of New Plant;
- •Employees Remuneration and Benefits;

25. The TRAI proposes that the service providers develop and apply the unit costs indicated in Appendix 3-2 in Service Specific studies for the purposes of estimating operating expenses.

26. The TRAI proposes that these Operating Expenses be handled as loading on capital or linked to the appropriate demand or non-capital cost driver as indicated in Chapter 3.

27. The TRAI proposes that a program of Work–Time studies be instituted to develop more dis-aggregated estimates of direct and indirect operating expenses associated with the Functional Operating Expense categories listed in Appendix 3-2. This would provide a basis for more defensible unit cost information for carrying out SSC studies and for developing and maintaining a Unit Cost database. This database would be unique to each service provider and would be regarded as proprietary information, for use only by corporate personnel and for the TRAI in assessing SSC studies.

28. The TRAI proposes that the service providers develop and implement plans to have available Functional Operating Expenses dis-aggregated into the applicable underlying activities. The dis-aggregation should reflect the particular circumstances of each service provider’s organization.

29. The TRAI proposes that each service provider provide an analysis of the options that it would consider to deal with the requirement for special studies in its own environment, indicating the time and the cost involved for the various options determined to be valid and cost effective. In addition, each service provider should indicate its preferred option and possible schedule to deal with the task.

30. The TRAI proposes that each service provider prepare a Service Specific Costing Manual, which will provide a detailed description of how the costing information will be developed using the prescribed methodologies and how the study results will be presented. This Manual will be filed for approval by the TRAI. Periodic updates will reflect changes in methodologies and costing techniques, as better resource cost information becomes available. These changes will also require TRAI approval.

31. What would be a reasonable time frame for the preparation of the Manual?

32. The TRAI proposes to review and audit any application programs used to generate each service provider’s study results to ensure the integrity of the results.

33. The TRAI proposes that the service providers identify and describe special studies as and when they occur.

34. The TRAI proposes that the service providers develop approaches to facilitate investigations. The approaches proposed by each service provider must be reviewed and approved by the TRAI.

35. In instances where the incumbent offers services in direct competition with other service providers and where some elements of those services are offered to the new entrants at tariffed rates, then to the extent that the incumbent also uses the same service elements in its own services, the costs for the incumbent's service must reflect these service elements in the study at tariff rates.

36. The TRAI proposes that under the Service Specific Costing studies of major services and products should be open to a public process. While competitive sensitivity may require the production of an abridged version of the study, it is still useful to allow public scrutiny in order to build credibility for the process.

37. The Directives and Definitions listed in Appendix 3-1 may be adopted as the same would provide a standard approach and format for Service Specific Costing in the context of support for tariff approvals for new service introduction.

***Other Issues***

38. *What should be the frequency and manner of reporting for various statements/reports that the TRAI may finally prescribe for this purpose?*

39. Would the constitution of a 'Steering Committee' made up of service providers with the TRAI's representative as an Observer be useful to provide advice and input to the TRAI on various implementation issues?

40. Any other issue that needs to be addressed in the context of implementation of the proposals contained herein.

# CHAPTER 1

## INTRODUCTION

### **Background**

1. The Department of Telecom Services (DTS), which operates as a service provider in the status of a government department, has been maintaining its accounts in accordance with the accounting manuals prescribed by the Government of India. All other service providers (including the public sector enterprises namely, MTNL/ VSNL) are corporate entities registered under the Companies Act 1956 who follow the provisions of the Companies Act 1956 in regard to their accounting systems.

2. The TRAI Act 1997 as amended by the TRAI (Amendment) Ordinance 2000 mandates that every service provider shall maintain such books of accounts or other documents as may be prescribed. Section 12 (3) and Section 35(2)(d) of the Act are relevant in this context. This Consultation Paper deals with the accounting practices and reporting requirements in relation to entity accounting, accounting separations and accounting under the administrative/ legal framework which the licensees are expected to comply with. The Paper initiates the process of compiling the Accounting Manual with reporting requirements for financial monitoring of service providers, which will facilitate the Authority's task in the effective discharge of responsibilities mandated to it under the Act.

### **Need for Accounting Information**

3. Current capabilities of the information and tools available to the TRAI for purposes of tariff and cost analysis may not be as complete as required to allow the TRAI to most effectively carry out its mandated tasks. During the recent exercise on tariff re-balancing, which was aimed at establishing a cost based tariff regime for telecom tariffs in India, the lack of information base for determining cost based charges was a major hindrance. Appendix 1.1 captures the type of dis-aggregated information for different services, which was felt necessary during the tariff re-balancing exercise.

4. Culmination of the present exercise on accounting separation will lead to prescribing the accounting and reporting requirements for service providers with separation of accounts, thereby facilitating the availability of more detailed information on the cost base on a regular basis with greater transparency in operations, especially with regard to cross-subsidization. Proposed system would provide the framework for continuous collection of data by service providers in a specified manner (in terms of unbundled activities/ services), so that more detailed cost analysis can later be conducted by the TRAI for refining the tariff structure or for the performance evaluation of service providers.

### **Objective**

5. The objective of Accounting Separation and Formats for Accounting/ Regulatory Statements is to make available for regulatory and management purposes the capability to analyze the costs, revenues and capital employed in major areas of a service provider's business.

6. The expected outcome of this Consultation Paper is to enhance the understanding and commitment of the service providers and the public towards the need for establishing the underlying system characteristics. This would strengthen TRAI's capabilities to

provide regulatory oversight in increasingly competitive markets. The TRAI will be in a position to make more informed and rational regulatory decisions based on sound and more accurate information. The system will also better equip the service providers to meet the challenges of open competition. Users of telecommunications services will be able to select the appropriate services from a variety of suppliers in a vibrant and dynamic industry. This consultative exercise is also meant to provide inputs to the Government for notification of appropriate Rules in accordance with Section 35(2)(d) read with Section 12(3) of the TRAI Act.

7. In a converged environment, any network may be able to offer any service. Accounting separation would enable an assessment to be made of potential distortions where differing pricing rules apply to different networks of bundled services.

8. The accounting practices to be applied by service providers for the compilation of separate accounts are meant for regulatory reporting. These guidelines are not intended to impinge on the prevailing guidelines for statutory financial reporting.

### **Systems of Accounting**

9. The costs, revenues and capital investments have two orientations: historic and forward looking. Any guidelines for achieving such separations should be implemented in a manner that identifies the main categories into which the costs, revenues and capital have to be grouped, and the methodology to be used to assign costs.

10. This Consultation Paper is intended to initiate the debate that will result in procedures to facilitate the grouping of revenues and costs of an accrual based, historic oriented System of Accounts into broad financial categories of regulatory and market significance. For that reason, the system proposed is called **Broad Financial Category Costing (BFCC)**. This system of financial reporting should be subject to audit scrutiny and close to the service provider's books.

11. Parallel system is also proposed to deal with the requirement to provide 'forward looking' costing support for tariff setting and investment decisions. This system is called **Service Specific Costing (SSC)**.

12. It is well recognized that Broad Financial Category Costing and Service Specific Costing are challenging systems to establish. It is important to determine the objectives to be met and to develop assignments of revenues, investment and costs consistent with those objectives. While precise assignment may be difficult, a reasonable, practical and credible assignment is possible to provide answers suitable for strategic decision making.

13. Guidelines proposed in this Consultation Paper are not intended to be a highly detailed and all-encompassing set of rules applicable across the board (without modification) to all service providers. **In fact, each service provider will be required to work with the TRAI to apply this set of guidelines to develop consistent procedures that will appropriately fit that service provider's specific circumstances.**

### **Accounting Manual**

14. The consultations on this Paper are expected to result in formulation of the Accounting Manual that will prescribe TRAI's requirements in respect of the accounting and reporting practices to be adhered to by the Licensees for enabling the Authority to meet its regulatory objective. The Accounting Manual will provide for the entity accounting, accounting separations and administrative framework for its implementation. It may not seek to prescribe which revenues or costs would be used by

the TRAI for particular purposes. It would, however, provide for an accounting of all revenues and costs, which may be relevant to a particular decision.

15. Accounting requirements would be stipulated for each corporate entity holding a license, outlining the information requirements and frequency of reporting to the Authority. It would also prescribe the accounting practices, accounting policies and methods of evaluation of various transactions, which the licensees will have to comply with. Details of other financial and non-financial records to be maintained by the licensees would also be prescribed. The accounting separation would set out the accounting requirements for the segments for which the Authority requires information prescribing the revenue and cost separation concepts, approach and practices that licensees have to comply with. Administrative framework in the Accounting Manual would set out the audit arrangements, maintenance procedures of the Manuals, confidentiality requirements and administrative reporting requirements associated with the Accounting Manual.

16. Through this process, the Authority seeks to establish a structured framework to ensure a common approach to providing financial information to the Authority by each of the licensee. It would also ensure that the reporting by the licensees is on a timely, consistent, transparent and accurate basis. The Authority would assist the licensees in defining the information requirements specific to each service and review the need for, and the work involved in, special studies. This would also facilitate the Authority's task in determining the sustainability and financial viability in terms of growth and performance for different services.

17. The service providers would be free to follow their accounting and reporting requirements in respect of statutory and internal reporting. The Accounting Manual would ensure that the accounting practices stated therein are so designed to minimise differences between those practices that are required to meet the Authority's objectives and the practices which the licensees have to adopt to meet their internal and statutory requirements. While the accounting manual would apply to all licensees, the Authority may waive certain reporting requirements of the Manual at its discretion under certain set of conditions. **The reporting formats and the frequency of reports will be determined on the basis of consultations on this Paper.**

18. The Accounting Manual would set out broad guidelines for accounting practices and accounting separations. In addition to the same, each service provider will be required to prepare detailed procedure Manuals under the BFCC and SSC systems giving description of how the costing information will be developed using the prescribed methodologies and how the study results will be presented by each Licensee to implement the accounting and reporting practices prescribed in the Accounting Manual. Such procedure Manuals would provide an overview of the licensee's organizational structure and a description of its regulatory accounting systems along with a mapping of the licensee's general accounting system to the accounting formats prescribed by the TRAI. This would include descriptions such as those relating to the treatment of related transactions, allocation of shared services and allocation of jointly used assets. The licensee would furnish details of studies, surveys and models employed in effecting accounting separations including methodology and approach, underlying assumptions, source and description of operational data, and frequency and timing etc. Such Manuals would, therefore, offer an overview of systems and processes, which

support the licensees' accounting practices. In the initial stages where the specified accounting treatment can not be applied by the licensee because of an initial lack of data base, the licensee must identify the steps being taken and the time required to implement the modalities suggested in the procedure Manuals. These Manuals and any amendments thereto will require TRAI's approval.

19. In accordance with the objectives of accounting separation, the operators will be required to prepare separate accounts for different network business activities and other activities. To start with, this may include both regulated and unregulated activities with detailed financial information.

20. For the purposes of accounting separation, as well as special studies, Licensees will also require non-financial information relating to network architecture, network usage, network capacity, product and service volumes and other measures of activity. Appendix 1.1 lists out some of the items relevant for such information. Formats will have to be prescribed in Manuals for uniformity in reporting of financial as well as non-financial information.

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### **Accounting Separation in Regulatory Applications**

21. 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 for:

- •measuring performance of products and services;
- •monitoring licensees' returns on products 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.

22. Regulatory policy changes have influenced the characteristics of the telecom sector and as technology has changed, it has become possible to allow multi-operator entry into many formerly single operator markets. Aggregated information has its limitations for the purposes of regulatory decision making such as for tariff and cost analysis. Accounting Separation is, therefore, significant from the regulatory perspective in a multi-operator environment. It sets out the accounting requirements for the segments for which the Authority requires financial information. It provides the capability of developing the information that will help to minimize any harm to market segments that are the beneficiaries of current regulatory policies. Broad financial categories will allow the assessment of the impacts of regulatory decisions on a market segment and the evaluation of business decisions on the regulatory objectives within that market segment.

23. In the case of an incumbent/ dominant operator, the accounting separation would enable availability of costing details relating to different activities. It would also enable measuring and accounting of the costs for internal consumption of resources and identification of areas of potential cross subsidy. This provides transparency, and encourages confidence in the cost allocation and attribution methodology. It ensures that

the costs related to interconnection services are clearly identified and separated from the costs of providing other services. Services used internally (from one activity within the incumbent to another) are provided on similar terms (in a non-discriminatory manner) to those offered externally so that there is a level playing field. It has important relevance even in the determination of contributions towards access deficit and/ or universal access.

24. **Accounting separation enables the operator to get a snap shot on the overall performance of its different business activities.** From a business perspective, information on market segments and segment profitability is critical to developing effective competitive responses. The direction of segment profitability over time is useful information to senior managers. Coupled with a capability to carry out Service Specific Costing studies, service providers can develop and test tactical market responses.

25. The following major applications of Accounting Separations have been appreciated in other jurisdictions:

- •The identification of cross-subsidy between “lines of business”.
- •A test of accountability; i.e., are competitive services, taken as a group, maximizing contribution. This recognizes that some competitive services are in an early stage of the life cycle and that more mature competitive services should be taking up the slack.
- •Monitoring the effects of rate re-balancing initiatives; i.e., whether regulatory objectives of reducing the shortfall in local service categories are being matched by corresponding reductions in long distance service categories?
- •Identifying the financial situation of various subsets of the local service category.
- •Providing a basis for forbearance from tariff regulation.

26. The accounting-separation methodology lays down the concepts, approach and practices for attributing revenues and costs, captured in entity accounting, to individual products and services, or aggregations thereof. The principle of causation is relevant here: that is, costs and revenues should be allocated to those services or products that cause those costs or revenues to arise. This needs the implementation of methodology for costs allocation, such as Activity Based Costing. All revenues and costs reported for the licensed entity are dis-aggregated to determine the profitability of retail and inter-service provider segments. Following concepts are relevant in the context of accounting separation:

- •Assignment and allocation;
- •Cost classifications; and
- •Distribution of costs.

27. Each item of cost and revenue must be allocated to the products and services provided by operators. While it is possible, by and large, to allocate directly most of the revenues to those products or services to which they are related, it is not the same case for costs. A relatively high proportion of the costs of operators is shared between different products and services.

28. Cost categories would normally consist of the following:

- •Direct and directly attributable costs;
- •Indirectly attributable costs; and
- •Unattributable costs

29. Direct costs can be directly and unambiguously related to a service or product and recorded accordingly in the operator’s accounting system. Directly attributable costs are

also directly and unambiguously related to a service or product. For example, wages and salaries of directory Enquiry Staff can be allocated directly to the Directory Enquiry Service. Similarly, software development costs may be directly attributed to specific products.

30. Indirectly attributable costs are those costs that can be related to a service or product on a non-arbitrary basis based on the relationship of the costs to direct and directly attributable costs. Such costs are allocated to the relevant service or product using an appropriate cost driver: for example, extent of usage of share facilities. Unattributable costs are those costs for which no direct or indirect method of apportionment can be identified. No doubt a significant proportion of telecommunications operators' costs are joint and common, by application of vigorous cost allocation methods, it is possible to reduce substantially the proportion of these costs that are truly unattributable. It may be essential to identify and address separately unattributable costs. The methods used for the purposes of ex-post financial reporting include allocation of costs to products and services in proportion to their share of total revenue or their contribution to net-revenue; and the Attributable Cost Method, or Equal Proportionate Mark-Ups, in which costs are allocated in proportion to the attributable costs of products and services.

### **Application of Costing Systems**

31. As India manages the transition from monopoly to competition, telecom pricing and re-balancing are among the key issues to be dealt with. An objective, credible and transparent tariff structure is required to balance the needs of both the telecom service providers and the end users. In addition, the downward pressures on tariffs brought about by market forces and changes in government policy imply that the existing sources of funds to meet universal access objectives will be progressively eroded.

32. For the purposes of illustrating how Broad Financial Category Costing and Service Specific Costing might be applied in the Indian environment, two potential Regulatory Application Scenarios are outlined below. These concepts are equally applicable to the incumbent (DTS/MTNL) as well as to new entrants in basic, mobile and other services.

### **Broad Financial Category Costing Scenario**

33. Consider the situation on introduction of competition in national long distance communications, which would result in the transition from a single operator to a multi-operator environment for the provision of National Long Distance (NLD) service. As competition grows, there will be downward pressure on NLD prices and a corresponding decline in the surplus generated by NLD service. Historically this surplus has been used to support the basic service expansion program. Moreover, the rates charged for basic local service do not cover local service costs.

34. There are several options open to the dominant service provider management and to the regulator. One is to set up a rate-rebalancing program, in which local rates are raised as NLD rates are lowered. This may have its limitations in a low teledensity country (like India), given the policy goal of local service expansion and the objectives of the New Telecom Policy (NTP 1999).

35. Another option is to ensure that the new entrants have a basic local service expansion obligation. This might take two forms: one is a target level of new installed

lines, an obligation that might be suitable for alternative local service providers; the other is to oblige the alternative NLD service providers to make a direct financial contribution towards local service expansion by the dominant service provider. Of course, both forms could be put in place.

36. A simplified scenario of this type throws up questions such as:

- •how large is the current surplus;
- •how fast is it eroding ;
- •what level of contribution can the new entrants be expected to make;
- •what level of re-balancing can be undertaken in local service;
- •what is the level of profitability of other service categories that might contribute to the surplus?

37. These questions can be dealt with effectively by determining the current pattern of surpluses and deficits among the broad service categories offered by the dominant service provider. This requires a System of Accounts that is structured in a way that groups the revenues, costs and capital investment at a sufficiently disaggregated level to allow the examination of the various “lines of business” of interest in this scenario.

38. In this simple scenario, three “lines of business” would be relevant for the incumbent’s situation namely, **Local Service; NLD/ ILD Service; and Other Services/ Products. Similar approach based on “businesses”, each of which would comprise a number of related activities or services would be required for other service providers.**

39. Broad Financial Category Costing provides a convenient methodology to assess the financial results of the existing service providers. These entities have an embedded investment base, which is generating an ongoing revenue stream. Generally these entities are working to an engineered capacity and have a stable, even accelerating growth rate. Their revenues are expected to service the embedded investment and be used to fund expansion.

40. On the other hand, the new service providers do not have an embedded investment base and must fund all growth from capital provided by debt and equity investors. This investment is made with the expectation that future earnings will generate funds to provide for the return of the invested funds and a return on investment. For this reason a system of measurement of historic earnings or current earnings does not provide a basis for ensuring that these entities are able to fulfill their fiscal regulatory requirements.

41. **The TRAI proposes that the new service providers file a business plan including a forward-looking study for each of the major business categories identified as broad service categories in Chapter 2 of this Consultation Paper. The business plan should include a forecast of capital expenditures, revenues and expenses for at least five years. The service provider should file a revised five-year forecast each year including a comparison of the previous year’s results to the previous forecast and to the revised forecast for the future years. An explanation of significant variances between forecasts and actual results, and between forecasts by year should be provided.**

42. The service providers may also put in place a standard system of accounts and develop the forecasts using the Broad Financial Category Costing type data. **These forecasts and comparison to actual results are required to provide the TRAI with**

**sufficient information to allow it to respond to the regulatory needs of the expanding industry.**

### **Service Specific Costing Scenario**

43. In order to understand the application of Service Specific Costing let us assume that the level of profitability of the 'Other Services' and some 'Products Category' is low or even negative. What should the regulator do? What should service provider management do?

44. An initial reaction for the regulator might be to ask the service provider to propose new and higher rates for the Other Services and Products Category in an effort to raise the overall level of profitability. This could be a mistake, since the level of competition in the market might make such an initiative self-defeating.

45. The appropriate reaction for the regulator would be to ask the service provider to study the Other Services and Products Category and to propose an action plan. At least one element of such an action plan would be to carry out a series of Service Specific Costing studies of those services that the service provider management believes might benefit from restructuring of rates or changes or additions to service features. Armed with the SSC study results, the service provider management can then decide whether or not to propose rate action for certain services and to suggest radical restructuring or even elimination of some services if it is found that this is the best course of action.

46. Faced with the service provider's action plan based on SSC study results, the regulator can then determine whether the situation is temporary (as the new services mature, they are projected to be satisfactorily profitable) or permanent (for example, the level of competition is such that prices of unprofitable mature competitive services cannot be raised; other factors prevent service provider costs from being reduced). In the second situation (permanent), the regulator may well decide to accept the situation and direct the service provider to devise the most effective exit strategy for the unprofitable services.

### **Cost of Capital**

47. Cost based tariffs normally include the component of a reasonable return on investment, which is determined on the basis of the cost of capital and the capital employed. The cost of capital of an operator may have linkage to opportunity cost of funds invested in network components and other related assets. It would normally reflect the weighted average cost of debt, cost of equity based on the returns that shareholders expect in order to invest in the network with its associated risks, and the quantum of debt and equity. This information is used to arrive at the weighted average cost of capital (WACC), which is then applied to a capital value for network components and other related assets in order to determine the return that needs to be built into tariffs/ charges. While it may be easy to identify the values of debt and equity for an operator's entire activities, it is not easy to do so for each of its constituent business. The decisions about debt finance are largely corporate decisions determined by a number of factors, such as historical borrowing facilities and tax planning considerations. Capital values of activities may also be determined by apportioning net assets or capital employed on a causal basis. Allocation methods for different items of capital employed have, therefore, to be indicated. For the purposes of accounting separation, balance sheet information should be consistent with the definition of capital employed used for price-setting purposes.

### **Confidentiality of Information:**

48. The service providers and interested parties should provide comments as to the need to keep this information confidential. Included in those comments should be a statement as to the harm that will occur if the information is revealed or if it is not available to all interested parties. Publication of relevant extracts of the accounting information may be warranted to make transparent the basis of price-setting, relationship between interconnection charges and costs, and to develop public confidence on provisioning of resources by operators on non-discriminatory cost based charges. Information that is proven to be commercially confidential would not be published. The TRAI may, however, disclose any such confidential information in public interest. However, before doing so, an opportunity would be afforded to the operator for objections, if any, to such public disclosure. The Authority may overrule such objections if considered necessary in public interest by recording reasons in writing.

### **Miscellaneous**

49. **The recommendations in this Consultation Paper specifically recognize that differences in corporate environments would lead to differences in implementation procedures. Nevertheless, this should not mean that the principles and the objectives must be different. It is essential that the Licensees establish as soon as reasonably practicable accounting and reporting arrangements in such a form that facilitates presentation of their dis-aggregated accounts for each service segment. It will, however, be subject to time frame that gets determined based on these consultations.**

50. Another proposal that may prove useful in the course of implementing Accounting Separation is the formation of a Steering Committee made up of service providers. This Committee could provide advice and input to the TRAI on various implementation issues that may arise including the training requirements for the personnel of service providers that would be required in view of the nature and complexity of the tasks. Some issues will be bilateral in nature and must be resolved between the TRAI and the service provider concerned. There will be other issues that are multilateral in nature and the Steering Committee could be helpful in resolving such matters. The Steering Committee could assist in identifying those differences that are substantive and which need to be handled with sensitivity. No confidential corporate data should be released to such a Committee without the express consent of that service provider. A representative of the TRAI could participate in the deliberations of the Committee as an Observer.

### **Structure of this Paper**

51. Main elements of Accounting Separation and Formats considered in this Consultation Paper include the following:

- •Provision of a suitable foundation for the development of Broad Financial Category Costing on historic cost as also on forward looking cost basis;
- •Provision of a suitable foundation for the development of Service Specific Costing on a forward looking cost basis. In the case of a new service to be introduced by an existing service provider, historic cost would also be relevant.

52. The above costing concepts would form the basis for developing an Accounting Manual that the TRAI may prescribe apart from the Procedures Manuals to be developed

by the service providers containing detailed description on how the costing information will be developed based on these concepts.

53. Apart from this **Chapter 1 on Introduction**, the detailed discussion on **Broad Financial Category Costing** is provided in **Chapter 2** of this Paper. **Chapter 3** contains the detailed discussion on **Service Specific Costing**. The **Appendices with Tables** attached to the Paper provide supplementary information on the proposed systems.

## **Chapter 2**

### **BROAD FINANCIAL CATEGORY COSTING**

#### **Background**

1. One of the approaches to accounting separation is based on 'business segments', each of which may comprise a number of related activities or services. Broad Financial Category Costing (BFCC), sometimes known as Broad Service Costing, is a technique for viewing a service provider's financial results across a limited number of predetermined business segments. The results from this activity provide an indication, year over year, of the service provider's financial performance within each of the Broad Service Categories.

2. The new policy framework envisaged in the NTP 1999 provided for recommendatory role of the TRAI on issues connected with entry of new operators, mode of their selection, license fee structure, and other terms and conditions of license agreement for different services. References have accordingly been made by the DOT seeking recommendations of the TRAI on these issues in respect of basic, cellular, radio paging, GMPCS, VSAT, PMRT and national long distance services. TRAI's recommendatory role in regard to need and timing for introduction of new service providers, and terms and conditions of license to a service provider has been reiterated/clarified in the TRAI (Amendment) Ordinance 2000. In order to effectively discharge these functions, the Authority would require specific cost and earning information related to all operators in different service segments on a regular basis. Costing concepts such as BFCC offer an effective way to obtain this information.

3. BFCC provides a measure of the success of strategic regulatory and business decisions, detects potential cross subsidies between major business segments, and measures the changes in the financial results of business segments caused by technology, market conditions, business decisions or other external pressures.

4. Broad Financial Category Costing, as opposed to Service Specific Costing, uses embedded costs, which in conjunction with an earnings objective can determine minimum earnings tests for broad categories of services. These tests can measure the funds generated in one business segment such as International Long Distance, or Urban Services that could be made available to fund Rural/ Remote area development or to extend service availability. Similar categorisation of 'businesses' could be done for other services.

5. BFCC can be used to measure both the existing service provider and new entrants. It is important that there is a common system of measurement and reporting across all participants in the industry. There should be a general agreement on guidelines for expensing and capitalizing expenditures; service lives for depreciable assets and other key accounting conventions.

6. Broad Financial Category Costing will enhance the efforts of the TRAI in ensuring that a viable modern telecommunications industry develops in the Indian environment. The techniques described in this paper will allow the TRAI to monitor the financial capability of the industry participants in achieving the challenging goals laid out in the policy framework of NTP 1999. This information must be supplemented with demand forecasts, market assessments and five-year construction program plans and other information, which will be requested by the TRAI from time to time.

## **Suggested Reporting Requirements**

7. Separate accounts need to be prepared in respect of each business activities of the service provider. Operating costs and capital employed associated with providing and maintaining different services are relevant. For example, in the context of the basic/cellular mobile services, it would be necessary that the DTS and other service providers split their long distance market into National Long Distance and International Long Distance under the BFCC system. The residual telecommunications markets should be split between Urban and Rural following the definitions used to establish the urban and rural tele-density objectives in the NTP 1999. The Urban and Rural Categories should be further split between residential and commercial categories with sub-classification into **Access, Local and Other**. The separate identification of a local access-network business is intended to make transparent the costs involved in the provision of connections to the telephony network and to distinguish these costs from those network costs that relate to the provision of interconnection services.

8. The 'Other Services' Category includes causal costs associated with other non-telecommunication services, such as rental of premises to outside parties.

9. National Long Distance should be split between Intra-Circle and Inter-Circle Long Distance. National and International Long Distance categories should be further split between Long Distance and Other Long Distance Services. The Other Long Distance Services Category may include leased lines, value-added services and others activities not defined as basic Long Distance.

10. The Access Category may include all the non-usage sensitive costs associated with providing Local Service from the customer's premises to the local switch.

11. The Rural and Urban Other Category may include all value-added services and other services provided to the Local Service customer but not defined as Local or Access service.

12. There will be a Common Category to include costs, which can not be causally related to a particular service category and are shown to be fixed.

**13. Similar dis-aggregation in the accounts of the retail business and other activities would be required for MTNL and the new entrants providing facility based services. In the case of multi service operator like MTNL, which is providing basic, cellular and Internet services, accounting separation is especially relevant till there is no structural separation to operate these services as separate business. The extent to which separate accounts for these activities should be maintained needs to be debated from the angle of transparency requirements.**

14. NTP 1999 provides specific measurements of its objectives to the year 2010. These include:

- •Make available telephone on demand by the year 2002 and sustain it thereafter so as to achieve tele-density of 7 by the year 2005 and 15 by the year 2010;
- •Encourage development of telecom in rural areas making it more affordable by suitable tariff structure and making rural communications mandatory for all fixed service providers;
- •Increase rural tele-density from the current level of 0.4 to 4 by the year 2010 and provide reliable transmission in all rural areas;

- •Achieve telecom coverage of all villages in the country and provide reliable media to all exchanges by the year 2002
- •Provide Internet access to all district headquarters by the year 2000
- •Provide high speed data and multimedia capability using technologies, including ISDN, to all towns with a population greater than 200,000 by the year 2002

15. The Group on Telecommunications (GoT) set up by the Government of India in 1998-99 to formulate the new telecom policy recognized that these objectives are extremely ambitious and require an investment of about Rs 400,000 crores. There is no doubt that in order to raise the necessary capital and to manage the installation of this huge increase in lines (130,000,000) there is a need for a number of operators in the market. As well the incumbent DTS will have to attract private investment, as an expansion of this magnitude would certainly be beyond its capacity to fund from internal resources.

16. BFCC is an appropriate way to assess the financial results of the existing service providers. These entities have an embedded investment base, which is generating an ongoing revenue stream. Generally these entities are working to an engineered capacity and have a stable, even accelerating growth rate. These revenues are expected to service the embedded investment and be used to fund expansion.

17. Revenues from the provision of core telephony services can be directly allocated to the services to which they relate based on accounting records and billing system information. Where, however, such direct allocation is not possible, revenues have to be attributed on the basis of causation. Revenues for a fixed telephone network may consist of the following components, which have to be allocated for different network components:

- •New connection charges
- •Line rental charges
- •Revenue from leased lines
- •Access deficit contributions or Universal Access Levy contributions
- •Interconnection charges
- •Call charges
- •Equipment rental and sales
- •Revenues from advertisements
- •Engineering services facilities such as building etc.
- •Other activities

18. It is important that the revenues from non-core activities and the costs associated with them are treated consistently so that there is no under statement or over statement in the profits of one business activity.

19. The new service providers do not have an embedded investment base and must fund all growth from capital provided by debt and equity investors. This investment is made with the expectation that future earnings will generate funds to provide for the return of the invested funds and a return on investment. For this reason a system of measurement of historic earnings or current earnings does not provide a basis for ensuring these entities are able to fulfill their fiscal regulatory requirements.

20. The TRAI proposes that the new service providers file a business plan including a forward looking study for each of the major business categories identified as broad service categories in this Consultation Paper. The business plan should include a forecast of capital expenditures, revenues and expenses for at least five years. The service provider will file a revised five year forecast each year including a comparison of the previous year's results to the previous forecast and to the revised forecast for the future years. An explanation of significant variances between forecasts and results and between forecasts by year should be provided.

21. The new service providers will have to put in place a standard system of accounts and develop forecasts using the Broad Category Costing type data. These forecasts and comparison to actual results are required to provide the TRAI with sufficient information to allow it to respond to the needs of the expanding industry.

22. The service providers and interested parties will have to provide comments as to the need to keep the information confidential. Included in those comments should be a statement as to the harm that will occur if the information is revealed or if it is not available to all interested parties.

23. The accounting separation should be developed in a manner that it leads to strengthening and making effective the regulatory system by capturing information consistent with policy objectives, which guide the regulatory process. In order to ensure investment is made in a manner most consistent with the new policy and to avoid cream skimming at the expense of providing services to the rural and tribal regions, broad service categories proposed above take into account the stated policies. At the same time, the TRAI would maintain ongoing regulatory oversight to ensure investment in telecommunications infrastructure outside the high profit urban locations.

24. The Broad Service Category information will be required to be filed at least on an annual basis in the form of an income statement and balance sheet reflecting earnings in total and a rate of return by category.

25. The information provided will enable the Authority to determine the relative earnings of each category for each company and to establish the financial success of each operator in total and by Business Segment.

26. Comparisons between companies may give some indication of relative efficiency. More extensive studies would be required including relative quality of service, a review of the geographical area that each company serves and the nature of the specific markets.

27. The TRAI will be able to detect excess earnings and to determine if the rates charged were fair for the service provided, and if it required rate relief in order to fund development required for achieving the policy objectives. The suggested Broad Categories provide for measurement of the amount of subsidy required by category and the magnitude of subsidy available by source.

### **Segregated Reporting for Licensed Activities**

28. In cases where a service provider is providing cellular, paging or related services in addition to the basic service from the same entity, it will be necessary to segregate such service into separate categories or to assign them to the Accounting Separation to ensure consistency between service providers.

29. If the authorities impose specific obligations as a condition of licensing to serve distinct markets, there should be a measurement system to ensure compliance. Where

these services are provided from an entity providing a variety of services, Broad Category Costing can provide the capability to measure the financial results of the entity under consideration.

### **Accounting Guidelines**

30. Accounting Separations have their own system of accounting. For example, the existing systems of the Telecom Accounts Manual and the Management Information Systems maintained in the DTS provide a great deal of financial and operating information by geographical location and by account. The present account classifications, however, make it difficult to track the ultimate use of the assets constructed or the purpose of certain expense items by broad category.

31. DTS, in its capacity as a telecommunications service provider, must begin a process to introduce accrual accounting practices and procedures. This will require DTS to inventory and value its assets and maintain ongoing asset records. This plan should be expedited with the intention that the revised accounting procedures are put in place as quickly as possible.

**32. This fundamental shift in accounting procedures will also be consistent with the policy goal of converting DTS in to a corporate entity as stated in the NTP 1999, which will require the DTS to value its assets in order to provide financial statements in a standard commercial format. This is also required to enable the production of Broad Financial Category Cost results.**

33. It is, therefore, important that the DTS develops a System of Accounts that will assign revenues and expenditures in a manner consistent with the need to assign the costs and revenues to the various categories needed to implement Broad Financial Category Costing. Such a change can be done concurrent with the work to develop the data required to prepare the organization to become a corporate entity.

34. International experience indicates that certain depreciation and accounting procedures need to be evaluated and possibly modified as a prerequisite to the design and implementation of a Broad Financial Category Costing (BFCC) methodology.

35. An illustrative example of such a System of Accounts as applicable for basic service, with sample classification of codes can be depicted as follows:

#### **Possible Major Accounts**

<b><u>Category</u></b>	<b><u>Code</u></b>
Assets	100-149
Liabilities	150-199
Telephone Plant	200-299
Debt and Equity	300-399
Operating Revenues	400-499
Operating Expenses	500-599
Sundry Debtors/Creditors	600-699
<b><u>Examples of Sub Accounts of Telephone Plant ( Account 200 )</u></b>	
Land	211
Buildings	212
Central Office Equipment	221
Switching equipment	221.50 - 221.200
Transmission – other	221.201-221.300

Deferrable Plug-ins-analogue	221.301-221.400
Hardwired – analogue	221.401-221.500
Deferrable Plug-ins-digital	221.501-221.600
Special network plant	221.601-221.700
Support plant	221.701-221.800
<u>Revenue Accounts</u>	
International Long Distance - Total	400
Long Distance	400.1
Other	400.5
National Long Distance - Total	410
Intra-Circle Long Distance	410.1
Intra-Circle-Other	410.2
Inter-Circle Long Distance	410.3
Inter-Circle-Other	410.4
Urban Telecommunications Service	420
Access	420.2
Local	420.4
Other	420.5
Rural Telecommunications Service	430
Access	430.2
Local	430.4
Other	430.5
Common	440

36. Integral to the System of Accounts should be a Location Code, which would identify capital expenditures by location. This is similar to location wise Asset Register indicating capital, expenditure for each asset. A limited number of codes to enable the identification of the purpose of such expenditures by BFCC should also be considered.

37. Specific details of the accounting system will have to be worked out by the accounting, operational and engineering experts of DTS in consultation with representatives of the TRAI. The System of Accounts will have to be finally approved by the TRAI.

38. The embedded investment records must be converted to the new format. This requirement is compatible with the corporatization activities, which also require the establishment of an accounting system consistent with commercial requirements.

39. DTS 's existing information systems have sufficient detailed information to establish records of cost and revenue related to International and National Long Distance. The Urban – Rural splits can be estimated using the existing accounting records, together with the management information systems.

40. Reasonable estimates, as opposed to precise estimates, may be acceptable in the initial stages.

41. **The requirement for making this transition is identified here and comments as to the specific requirements of a revised System of Accounts to satisfy the regulatory needs consistent with the stated government policy are invited. The ultimate system must also be consistent with the operating requirements of the DTS.**

42. **The aggressive expansion program called for in the New Telecom Policy 1999 will result in the existing investment data being subsumed by the new investment**

over the next few years. For this reason, the new System of Accounts should be in place early in the expansion program to ensure these future expenditures are captured at the time the new plant is built.

### **Directives on Depreciation and Other Accounting Procedures**

43. The TRAI has proposed certain directives on depreciation and other accounting procedures, which are attached to this Consultation Paper at Appendix 2-1. These proposals are intended to introduce uniformity among all the regulated service providers concerning certain depreciation and accounting procedures.

44. The proposed directives are divided into changes related to depreciation accounting and secondly, other accounting procedures. Depreciation accounting is intended to determine the expenses attributable to each year's operation and to identify the use of capital invested in depreciable plant over its life. The proposed directives are intended to bring about a practical degree of uniformity among the regulated service providers concerning depreciation practices.

45. The proposed directives relating to other accounting procedures are intended to bring about greater consistency in matching revenues to expenses.

46. The TRAI invites comments on these proposed directives. The service providers are also requested to prepare and submit implementation schedules applicable to each directive. For planning purposes, the TRAI envisages that the proposed changes in depreciation and other accounting procedures would be in place as soon as possible. The TRAI would interact with each service provider involved on an ongoing basis to ensure a timely phase-in of these accounting changes.

### **Accounting Separation Methodologies**

47. Broad Financial Category results for the Indian telecommunications sector will provide useful benchmark information for ongoing regulatory policy evaluation. International experience and best practice has essentially resolved the general conceptual framework of a Broad Financial Category Costing methodology. The regulated service providers must document and implement detailed procedures to produce annual revenue and cost results for the BFCC.

### **Proposed Guidelines**

48. International experience and best practice indicates there are essentially seven steps in putting in-place a BFCC approach.

49. The TRAI proposes that the following seven steps be used to assigning costs to the Broad Financial Categories:

- STEP 1: Describe the categories in terms of facilities;**
- STEP 2: Assign the operating revenues;**
- STEP 3: Assign the telephone plant investment;**
- STEP 4: Assign the operating expenses associated with plant investment;**
- STEP 5: Assign operating expenses associated with employee activities;**
- STEP 6: Determine the net investment for each category to assign Broad Financial and income tax expense;**
- STEP 7: Report the results in the form required.**

**STEP 1: Establish and describe the Broad Categories in terms of services, facilities and associated costs and demarcation points between categories.**

a) As an illustrative example, the Broad Service Categories may be categorized as follows:

- •International Long Distance;
  - •International Long Distance – Other;
  - •National Long Distance: Intra-Circle;  
Intra-Circle – Other;  
Inter-Circle;  
Inter-Circle – Other;
  - •Urban Telecommunications Services – Access;  
Local;  
Other;
  - •Rural Telecommunications Services- Access;  
Local;  
Other.
  - •Common (which would include costs that cannot be causally related to the other broad categories).
- b) All of the major components of a service provider's network facilities must be associated with one or more of these Categories. Each service provider's comments should identify those components (e.g. local exchange switching capabilities) which they recommend be assigned among a number of Categories.

**STEP 2: Assign the Operating Revenues**

- a) A service provider's services and related revenues are to be assigned to the Broad Categories based on the service description in the tariff that gives rise to the revenues in question. It is expected that most revenues will be assignable directly from the accounting records but this will need to be confirmed and, in some cases, special studies may be required.
- b) In some cases, bundled tariff structures may result in a mismatch between revenue and cost components. In these cases, revenues may be assigned to the category, which reflects the major assignment of associated costs or otherwise which best reflects the nature of the service.

**STEP 3: Assign the Telecommunications Plant Investment**

- a) Each service provider's telecommunications investment is recorded in its plant accounts. Broad types of such plant investment may include:
- •land and buildings;
  - •central office apparatus and plant;
  - •outside plant – lines, wires, cable, masts and aerials;
  - •installation test equipment;
  - •motor vehicles;
  - •other work equipment; and
  - •furniture and office equipment.

- b) Each broad type of plant investment must be examined in detail. If specific plant elements are dedicated to a single Broad Category then direct assignment is appropriate, but many elements of plant (e.g., switching equipment) are jointly used to provide the services in more than one of the Categories.
- c) As a result, special studies will need to be carried out using available data (e.g. busy season traffic measurements) to appropriately assign the inventory of jointly used plant elements among the Categories. Other assignment approaches will be applicable to other elements of the plant investment. For instance, furniture and office equipment may be assignable based on the prior assignment of the salaries and other expenses of office staff groups.

**STEPS 4 AND 5: Assign the Operating Expenses**

- a) Operating expenses are the ongoing expenses incurred in the provisioning of telecommunications services by a service provider. These expenses represent generally the salaries and wages and other associated expenses resulting from standard service provider activities such as planning, plant provisioning, maintenance, sales, customer service, billing functions and others.
- b) There are two main types of expenses. There are those expenses with a direct linkage to the service provider's plant investment and there are those expenses associated with the provision and administration of services.
- c) Investment related expenses include primarily maintenance and depreciation but there are usually certain other expense items (e.g. network planning) which are also directly correlated with plant investment. Such investment related expenses are to be assigned to the Broad Categories based on the prior assignment of the plant investment.
- d) The non-investment related expenses will be recorded in a service provider's accounting records and often parallel the organizational structure adopted by the service provider. For instance, there may be staff groups responsible for personnel and training, customer services and marketing and advertising.
- e) International experience and best practice suggest that detailed examination of each staff group is required, with particular attention being paid to identifying the tasks and functions carried out by such groups.
- f) Five general approaches may be considered to establish the causal relationship of these functions and associated expenses with the Categories. These five approaches are:
  - direct assignment;
  - study assignment;
  - associated assignment;
  - assignment based on loading/apportionment; and
  - assignment to the Common Category.
- g) Direct assignment of some expense accounts to a specific Broad Category may be possible in some cases.
- h) Study assignments reflect the fact that many tasks and functions once examined are associated with more than one Category. The work output of a staff group must be examined and in so doing a standard measurement of the activity must be

- identified and used to allocate the group's salaries, wages and associated expenses among the Categories.
- i) For example, the activities associated with sales and marketing may be driven by a standard service order procedure. As a result, a special study of such service orders will provide a reasonable basis for assigning the group's expenses among the Categories.
  - j) Associated assignments can be used for those activities and functions, which play a supportive role to a service providing activity. A prime example of an associated activity is staff training within a specific department. The salaries, wages and associated expenses of the departmental staff training activities can be assigned in proportion to the assignment of the expenses of staff providing service.
  - k) Loading assignments can be used for those corporate staff activities, which provide a service to all employees. A good example is the personnel department. The basis for loading such expenses may use salaries of user groups or a simple per capita employee allocation.
  - l) Finally, if the non-investment related expense item constitutes an activity, which cannot be causally linked to a particular service category, then the expenses will be assigned to the Common Category. These cost assignments should empirically be shown to be fixed.

**STEP 6: Assign Financial Expenses**

Financial expenses including interest on any long-term debt are to be assigned to the Broad Categories, based on the prior determination of the average net investment base (ANIB) for each Category. ANIB is the mathematical average of the beginning and ending year- end investment by category.

**STEP 7: Presentation of Results**

As already discussed, the BFCC results are to be formatted and presented in a manner that reconciles with the balance sheet and income statement information filed for regulatory purposes by each service provider. (See **Tables 2-1 & 2-2**)

**Formats, Frequency and Time Duration for Providing Accounting Statements**

50. **It is proposed that accounting statements be provided annually for:**

- **the prior accounting year;**
- **a projection of the next year's results;**
- **an update of the current year's expected results.**

51. In addition, rolling business plans covering forecast of capital expenditure, revenues and expenses for at least five years period be filed every year. Annual reporting is appropriate as it corresponds to the normal planning cycle of the companies. Plans are formulated and reports are prepared for the shareholders and other stakeholders on an annual cycle. Quarterly or semi-annual reporting of such broad information is not required and tactical business decisions can be handled more effectively with other techniques. To go longer than one year would not allow the regulator to review the impact of significant strategic changes, which are usually represented in the companies' annual budget plans.

52. The filing will take the form of an income statement and balance sheet by Category and should reconcile to the companies audited financial statements (See **Tables 2-1 & 2-2**). There should also be a calculation of the return on total capital for each segment. The regulator may prescribe certain tests of reasonableness to be filed with the results.

53. There should be an explanation of any significant deviation from the previous year's results. Tolerance levels should be negotiated with the service providers such that only significant changes are explained.

54. Each year a forecast of the coming year will be prepared using the operating budget data. This will enable the company and the regulator to estimate the impact of the current plans on the regulatory requirements for the coming year.

55. It is suggested that the annual statements would be based on the financial year (1<sup>st</sup> April to 31<sup>st</sup> March) as the accounting period. Such statements would be filed with the TRAI by 31<sup>st</sup> July every year. An operator may effect a change in its accounting year resulting in an extended accounting period during this transition. Segregation of accounts on 12-month basis would be relevant even in such situations.

### **System Requirements for Analysis and Generation of Financial Monitoring**

56. **The TRAI proposes that the service providers be required to prepare a Category Costing Manual, which will provide a detailed description on how the costing information will be developed using the techniques described above. This Manual will be filed with the TRAI and subject to approval by the Authority. The Manual will be updated periodically to reflect changes in assignment procedures resulting from company structure, technological innovations, organizational changes, improvements in costing techniques or any other change the company may consider appropriate. Changes to the Manual will require approval.**

57. Once the data has been derived, Broad Financial Category Costing results can be analyzed using a spreadsheet program jointly designed, audited, and implemented by the service providers and the TRAI. Once historical data is established, the TRAI will be able to do year over year comparisons and to change certain variables to assess the impact of changing key assumptions. This capability will also be available to the service providers and enable them to assess strategic options as it relates to service provision when considering regulatory responsibilities.

### **Audit Requirements for Accounting Statements**

58. **The reporting service provider must ensure that the BFCC Accounting Statements balance to the audited financial statements. The auditor will be required to attest that the filing was prepared in accordance with the specifications as laid out in a company's Category Cost Manual.**

59. There will be no requirement for the auditor to attest to the filing of the forecast year. The senior financial officer of the service provider should attest that the forecast was prepared using the company's budget and that the filing was consistent with the

approved Manual.If there is a requirement to deviate from the Manual, an explanation must be provided.

50. When the actual results are filed for the future year, the service provider will provide an explanation of significant variances from the forecast.

### **General Terms and Conditions**

51. Broad Financial Category Costing would be used along with other regulatory tools to assess the health of the Indian telecommunications industry and the progress towards the objectives established in the New Telecom Policy 1999.

52. The TRAI may measure on a periodic formal basis the progress towards the objectives for the industry.These include tele-density, availability of services to the villages, and general service quality.

53. The Broad Financial Category information will provide a basis for an assessment of the financial performance of the industry, the service providers and the Categories. This will detect industry efficiencies, ability of segments to fund less profitable but important segments, and the need for price and other adjustments within certain segments to better achieve the policy objectives.

54. The setting of specific terms and conditions will require a review with the service providers of their financial requirements and must take into account the obligations of the various companies under their license agreements and the policy objectives of the government.

## Chapter 3

### SERVICE SPECIFIC COSTING

#### **Background**

1. Service Specific Costing (SSC) is designed to provide practical, credible and cost-effective economic support for tariff setting and economic decision-making for both business and regulatory decision-makers. The cost inclusion principle is that all service provider costs that are incurred or that vary as a result of the introduction of a new service / product or of a significant change to an existing service / product must be included as costs of that service / product or significant change. A detailed discussion on the same is contained in this Chapter. In the remainder of this Chapter, the word “service” refers to both services and products, new and existing.

2. SSC is a methodology that compares the prospective revenue and cost streams associated with a service or product. The comparison is between the present value of the revenue stream and the present value of the cost stream, using an appropriate discount rate to be arrived at based on consultations. Thus the results are summarised in a net present value (NPV): that is, present worth of all cash inflows minus all cash out flows. A value greater than zero is an indicator that the new service is expected to be economically viable. SSC methodology is applied for new specific service or product as well as for significant change in the pricing of an existing service.

3. Since SSC is intended to deal with the assessment of future events, it must rely on estimates of the future revenues and costs associated with those events. In turn, it must be possible to obtain reliable estimates of such revenues and costs. On the cost side, the engineering and planning groups of the service providers develop such forward-looking costs on a routine basis by the very nature of their work. This is generally true of the capital elements of the service or product.

4. The labour elements are generally more of a challenge in instances where labour force costs are not available on a functional or an activity basis. Apportionment of investment related expense can appropriately be used by associated/loading assignment for certain cost heads. Simply representing such costs as a loading on capital is quite common and justifiable in most jurisdictions in the case of, say, Maintenance. Loading on capital may not be appropriate for other functions such as Billing. The challenge is to ensure that such loading is not so broad as to completely obscure the cost relationships that actually exist. The danger is that a proposed service that might actually be economically attractive appears to be unattractive because the loading is much broader than what is actually the case.

5. There will be a requirement to perform special studies in order to facilitate Service Specific Costing on the pattern similar to the development of BFCC.

#### **The SSC Approach**

6. The cost-based pricing and decision-making should, in general, be based on the total long run incremental cost of providing the service.

7. For the purposes of this discussion, services are grouped into two broad categories:

- •Other Services;
  - •Access Services.
8. Other Services may be further sub-divided as follows:
    - •Socially-priced Services, where other considerations dictate that prices must be set below cost. Even in such cases, the use of SSC methodology is appropriate to ensure efficient supply.
    - •Profit-maximization Services, where market forces, such as existing or potential competitors, discipline prices. The role of SSC in such cases is to assess alleged predatory pricing.
  9. Access Services may be further sub-divided as follows:
    - •New Services, where the characteristics of such services are not yet well known. Multi-media services is an example.
    - •Existing Services, such as copper loop rental or access tandem connections. These services are necessary for the effective development of a multi-operator environment. The forces of competition may not work well in the initial stages of the markets for such services.
  10. SSC provides the capability to estimate the price that would be chosen by an efficient access service provider operating in a market with effective competition.
  11. SSC, as mentioned above, is based on forward-looking costs. These are the costs of providing the service with the “growth route-growth technology” (GR-GT) and up to date operating procedures and techniques. SSC recognizes generalized productivity growth by allowing for the inclusion of a productivity growth factor. Service providers that innovate are rewarded.
  12. Forward-looking costs will generally result in the most efficient use and investment in the telecommunications infrastructure. GR-GT recognizes appropriate investment decisions. The use of SSC for access pricing leads to appropriate “build or buy” decisions on the part of new entrants.
  13. Access prices based on SSC indicate the long-term value of the resources used to provide the service. Efficient providers can fully recover the costs of service provision, thus protecting their commercial and ownership rights.
  14. Although SSC is characterized as a forward looking or prospective methodology, it does make use of some historic information, where such information is believed to be a good predictor of future values. For example, in a case where a new service makes use of existing network elements, the appropriate working fill factor is used to adjust the costs assigned to the new service. The assumption is made that the new service will not have a significant impact on the working fill. However, if it is likely that the new service will, in fact, cause a significant advancement of relief investment on the network, then the cost of such advancement should properly be assigned to the new service.
  15. The effective implementation of SSC will require a joint effort between the TRAI and the service providers to ensure that the Indian environment and its requirements are fully respected. This joint effort will encompass the accounting systems, the engineering and planning systems, labour and related management systems, and billing and analysis systems.
  16. The SSC capability will enhance the TRAI and service provider contribution to achieving the objectives envisaged in the NTP 1999.

## **Suggested Reporting Requirements**

17. Since the purpose of Service Specific Costing is to provide information to the TRAI and to service provider management about the implications of implementing the proposed service / product, the reporting of the analytical results is important.

18. It is essential that a standardized format be used to assure some degree of comparability between studies of a service at different times or places and to simplify the task of assessing the results.

19. This implies that the methods used to derive the results should follow a standard approach in order that the assessment of an individual study can focus on the results and their implications without having to be concerned about whether or not the methodology is sound or follows approved practice. A known format with known procedures minimizes the burden on both the service providers and the regulatory staff. **Appendix 3-1** provides the proposed Directives and Definitions. **Tables 3-2** to **3-6** provide illustrative study outputs.

20. The format suggested is intended to address the major concerns of service provider management and of the regulator in as simple and direct a fashion as possible. There should be some scope for flexibility to address special circumstances that might dictate adding or omitting elements in the report.

21. The proposed structure is as follows:

1.0 **1.0Service Description**

1.1 1.1Purpose of Service

What is this service intended to achieve?

1.2 1.2Service Benefits and Characteristics

A detailed discussion of the major features

2.0 **2.0Marketing Considerations**

2.1 2.1Target Market

2.2 2.2Price Positioning

Is this price intended to be a profit-maximizing price or is this a cost recovery situation?

2.3 Future Plans

Near term plans for expansion of service territory

Competitive impacts / response

3.0 **3.0Tariff Considerations**

3.1 3.1Tariff Components

The proposed rate structure for the service. Examples might be:

- -One time service charges ; e.g., installation
- -Usage-sensitive charges; e.g., per call or minute
- -Non-usage charges; e.g., line charges
- -Recurring charges; e.g., monthly or periodic charges
- -Other charges; maintenance, repair, etc.

3.2 3.2Service Commencement Date

- description and rationale

3.3 3.3Rate Determination Principles

- -are the tariffs based on costs or are the tariffs socially determined ?
- -cost recovery

- -cost recovery plus markup
- -element or feature grouping etc.

#### 4.0 **4.0 Compensatory Tests**

##### 4.1 4.1 Results

A comparison of the revenues and the major cost components.  
In tabular form, with some discussion of key points.

##### 4.2 4.2 General Considerations

###### 4.2.1 4.2.1 Study Period

-description and rationale for the period chosen

###### 4.2.2 4.2.2 Study Assumptions

- -how will the service work ?
- -network impact assumptions
- -cost inclusions – direct, indirect, variable common costs, etc.
- -capital – is it fungible or non-fungible
- -cost and other increase factors

###### 4.2.3 4.2.3 Economic Parameters and Tax Rates

- -cost of capital
- -debt/equity ratio
- -applicable tax rates

##### 4.3 4.3 Demand Information

###### 4.3.1 4.3.1 Forecast Assumptions and Methodology

###### 4.3.2 4.3.2 Estimates of Demand Quantities

- -in tabular form
- -discussion of key points

##### 4.4 4.4 Cost Information

###### 4.4.1 4.4.1 Costs Causal to Demand

- -expense items
- -capital items

###### 4.4.2 4.4.2 Costs Causal to Service

- -expense items
- -capital items

##### 4.5 4.5 Summary of Cost Impacts

22. The categorisation of costs provides the basis on which to apportion or allocate costs between products and services, which will need to be unbundled. The principle of causation: i.e. costs and revenues should be allocated to those services or products that cause those costs or revenues to arise is very relevant in the context of accounting separation.

### **Accounting Guidelines**

23. The resource costs may be categorised as follows for the purposes of apportioning or allocating costs between products and services:

- •Direct;
- •Indirect;
- •Variable Common;

- •Fixed Common.

24. Direct costs are those costs that can be directly or unambiguously related to a service or product and are accordingly recorded in the service provider's accounting system. Directly attributable costs are also directly and unambiguously related to a service or product but are not recorded in the accounts against the product or service to which they relate.

25. All direct and indirect costs are to be assigned to the new service along with the assignment of relevant proportion of variable common costs.

26. Fixed common costs, by definition, are not specific service related. They will be handled as part of the tariff setting process, not the costing process.

27. Pre-introduction costs or pre-commissioning expenses will be handled as part of the SSC study report (Refer: Table 3-5).

28. The service providers should identify and describe the direct and indirect resources required for implementation of a new service. The description of the indirect resources should include an explanation of their relationship to the direct resources.

29. Similarly, the service providers will identify and describe the variable common cost proportion being assigned to the proposed service.

30. **Appendix 3-1** provides Definitions and proposed Directives regarding cost estimation for Service Specific Costing.

31. All cost estimates, unless otherwise indicated, are to be developed on a current rupee basis. This requirement ensures both costs and revenues to be tracked are consistent and facilitates assessing the likely impact of the new service on the service provider's profitability.

### **Accounting Separation Methodologies**

32. This discussion is linked to Chapter 2 and supposes that appropriate changes to the recording and accounting systems are made so that new capital and expense categories are developed to facilitate analysis and tracking following the cost classification system outlined in this Chapter.

33. It is highly likely that some review and modification of the Expense accounts associated with staff and technical salaries, benefits, and other personnel related activities and functions will be required. Moreover, special studies may be needed to provide the minimum levels of dis-aggregation by function (e.g., customer service request) and / or activity (e.g., order processing, line connection, premises visit, premises work, etc.).

34. During the initial stages, an attempt should be made to define the functions that must be costed. Some of these functions may be as under:

- •Administrative Expenses;
- •Operating Expenses;
- •Customer Service Office;
- •Billing Office ( business and residence );
- •Repair and Maintenance;
- •Construction and Installation of New Plant;
- •Employees Remuneration and Benefits;
- •Supervision.

35. The short-term goal is to identify the overall cost information for a given function. **Appendix 3-2** contains a short list of Functional Operating Expenses for the short term

cost development activities and a detailed list of Functional Operating Expense items that could serve as a guide for future work. Dis-aggregation of the underlying activities can follow as time and resources permit.

36. The service providers will have to develop and apply the unit costs indicated in Appendix 3-2 in Service Specific studies for the purposes of estimating operating expenses.

37. The Operating Expenses may be handled as loading on capital or linked to the appropriate demand or non-capital cost driver.

38. The service providers are expected to indicate how they intend to deal with this area on two bases: short term, as described above, and on the longer term, as described below.

**39.** These functions can be addressed initially through loading on capital for such items as Maintenance or Planning. In the case of the other functions, there is a need to identify more appropriate demand and cost drivers that can be reliably estimated and tracked.

**40.** It is essential that a program of Work–Time studies is instituted to develop more dis-aggregated estimates of direct and indirect operating expenses associated with the Functional Operating Expense categories listed in Appendix 3-2. This would provide a basis for more defensible unit cost information for carrying out SSC studies and for developing and maintaining a Unit Cost database. This database would be unique to each service provider and would be regarded as proprietary information, for use only by corporate personnel and for the TRAI in assessing SSC studies.

41. These Work–Time studies may not be necessary for those service providers who can demonstrate that they currently have the capability (or can quickly develop such capability) to produce such dis-aggregated estimates on a timely basis.

**42.** Longer-term solutions will involve changes to the underlying System of Accounts of some service providers. However, whether in the short or long term, it may not be cost effective to require that the System of Accounts provide detail at the underlying activity level. This is especially likely to be the case where a large number of corporate groups are involved in dealing with a particular customer activity.

**43.** For example, processing a typical Customer Service Request may involve all or most of the groups mentioned above in one or more activities. Appendix 3-2 indicates the major activities for which such groups typically are responsible.

**44.** Consideration of the complexities involved suggests that only a carefully designed program of statistical studies will provide meaningful estimates of the underlying costs associated with each of the activities.

**45.** It is imperative that the service providers develop and implement plans to have available Functional Operating Expenses dis-aggregated into the applicable underlying activities. The dis-aggregation should reflect the particular circumstances of each service provider's organization.

46. Each service provider must provide an analysis of the options that it would consider to deal with the requirement for special studies in its own environment, indicating the time and the cost involved for the various options determined to be valid and cost effective. In addition, each service provider should indicate its preferred option and possible schedule to deal with the task.

## **Formats, Frequency and Time Duration for Providing Costing Information**

47. The SSC statements are of two main types:

- The study reports themselves that have been discussed above;
- The Functional Operating Expense information outlined in **Appendix 3-2**.

48. In the latter case, the underlying unit cost information should be updated whenever major changes are known to have taken place or are about to take place. For example, labour rates set by contract may take the form of a structure of hourly rates for various grades and classes of labour. There may be a known annual increase factor as a component of the contract between the company and the work force. During the period of the contract, no updates are required. When a new contract is signed, the new labour rate elements and increase factors should be reflected in the unit cost data-base.

49. Another situation may occur on introduction of a new technology resulting in changes in some of the demand and cost drivers. Some activities might get changed as a result of organizational changes. Finally, other cost increase factors may be expected to change as a result of price increases announced by suppliers.

50. A common example of a unit cost is a labour unit cost. Labour unit costs are developed to capture the direct and indirect costs associated with labour. In general, labour unit costs are:

- used for SSC and planning studies and would be available to corporate personnel in the form of a “Data Handbook” or computer data base;
- expressed as a cost per base hour worked by the base group on a specific job function in regular and overtime mode;
- split into Direct and Indirect costs to facilitate their accounting treatment;
- used to develop cash flows of Direct and Indirect costs when forecasts of base hours are available;
- developed by geographic Region or other grouping of significance;
- developed by Account, Function, Organization codes.

51. A “base group” is the labour force that performs the specific job function (“hands-on” work). A “base hour” is the time spent by the base group in regular and overtime-mode to perform a specific job function. **Appendix 3-3** contains more details on labour unit costs.

## **System Requirements for Analysis and Generation of Service Specific Results**

52. **Each service provider will be required to prepare a Service Specific Costing Manual, which will provide a detailed description of how the costing information is to be developed using the prescribed methodologies and how the study results will be presented. This Manual will be filed for approval by the TRAI. Periodic updates will reflect changes in methodologies and costing techniques, as better resource cost information becomes available. These changes will also require TRAI approval.**

53. In the case of a given study, and especially in the initial phase of the development of reliable dis-aggregated costing information, Service Specific Costing results could be developed and analyzed, for example, using an application run on a spreadsheet program.

To ensure consistency and credibility, such applications should be designed and implemented by each of the service providers, reflecting their own circumstances.

54. **It is also essential to prescribe for the review and audit of all the application programs, which are used to generate each service provider's study results. This would ensure the integrity of the results.**

55. The capability to do comparisons and sensitivity analyses will allow the companies and the TRAI to assess the impact of change in certain key variables. It will also allow the service providers and the TRAI to analyze and assess various policies and other options related to service provision in the light of the objectives of the NTP 1999.

## **Special Studies, Investigations and Regulatory Safeguards Requirements**

### **Special Studies**

56. As indicated above, special studies will be the initial approach for limited disaggregation of the Functional Operating Expenses of the service providers. In a more general way, special studies may be required to develop the demand and cost information required to properly assess a new line of business (service or product), especially where introduction cannot be based on previous experience with other services and products.

57. **It is proposed that the service providers identify and describe special studies as and when they occur.**

### **Investigations**

58. Investigations on an "as required" basis would be facilitated if some form of Service Code or "keep cost" systems were available. For example, in the context of a proposed new service, there may be significant questions about certain aspects of the costs, or the characteristics of the customers relative to the expected target market. There must be some credible capability on the part of the service providers to carry out such investigations in a timely and cost effective manner. **The service providers will, therefore, develop approaches to facilitate investigations. The approaches proposed by each service provider will have to be reviewed and approved by the TRAI.**

### **Regulatory Safeguards**

59. During the initial years of the transition from a monopoly to a more competitive environment, it is essential that the TRAI satisfies itself that there is a "level playing field" for both the incumbent and the new entrants. It is general practice that the incumbent has a greater burden of proof or operates under a higher degree of scrutiny than do the new entrants. It is proposed that in instances where the incumbent offers services in direct competition with other service providers, and where some elements of those services are offered to the new entrants at tariffed rates, then to the extent that the incumbent also uses the same service elements in its own services, the costs for the incumbent's service must reflect these service elements in the study at tariff rates.

## **General Terms and Conditions**

60. **SSC study of major services and products should generally be open to a public process in the interest of transparency. While competitive sensitivity may require the production of an abridged version of the study, it is still useful to allow public scrutiny in order to build credibility for the process.**

61. The credibility of the process will be strengthened by requiring that SSC studies for Interconnection and for other major services should be designed so that key elements are trackable. For example, the time taken for Interconnection requests to be honoured, the number of such requests honoured, and so on, might be appropriate in the case of Interconnection.

## **General and International Best Practice**

62. Combinations of Service Specific Costing and Broad Financial Category Costing are gaining recognition as desirable and vital accounting systems. They provide tools to cater to the information requirements on account of increased competition, global pressures (such as on Accounting Rate Reforms for the International Long Distance segment, and to provide a firm foundation and an impetus to move societies along their individual National Information Infrastructure's policy paths.

63. The information in **Table 3-1** is an overview of current (1996-1999) or proposed accounting separation practices and policy in a number of countries. Three groups of countries are presented: the European Community, which encompasses such countries as the United Kingdom, France, Germany, Ireland, etc.; Asia, represented by Japan; Other, represented by New Zealand, Canada, and the United States. **A point of commonality among all of these countries is that they have adopted, or are proposing to adopt, some form of incremental costing to deal with interconnection. They are also adopting, or have adopted, accounting separation on a "line of business" approach, although they have used different definitions of a "line of business".**

64. **There is a major point of difference between the overall approach adopted by the European Community and the approaches of the other jurisdictions.** The European Community has recommended that the accounting separation be done on a Current Cost Accounting basis in contrast to the more usual Historic Cost Accounting basis in the other jurisdictions. In the case of the European Community, this results in two distinct Systems of Accounts - a regulatory System and a statutory System.

65. Another point of distinction between the European Community (EC) and the other jurisdictions lies in the EC's recommendation of economic / engineering models to provide assessments of "green field" or ideal network topography costing. Because of the recognized differences between the cost structure of any incumbent's actual network and the "green field" approach, the EC has commissioned a study to examine how such differences can be taken into account in these models and how the models can be designed to apply to different operators

66. **Lines of Business Approach followed by the European Community is as under**

- **Core Network** (switched infrastructure) covers the provision of interconnection services, transit services and carrier's carrier services;
- **Local Access Network** (local loop infrastructure) covers the provision of connections to the telephony network. This will include those components of the

network that are not traffic-sensitive and are dedicated to a particular customer including, for example, the local loops and the line cards and ports located at concentrators and/or exchanges.

- **Retail** covers the activities mainly related to the commercial provision of fixed telephony services and leased lines to end-users. Separate accounts may be prepared for each activity within Retail that is subject to regulation (such as leased lines or telephony).
- **Other Activities** covers the additional activities provided by the notified operator (an operator deemed to have significant market power), which may include unregulated activities as well as other types of regulated activities. Accounts for regulated and unregulated activities need to be kept separate.

67. Not all members of the EC are at the same stage. The United Kingdom is well advanced, but the other members have varying distances to go. For example, the latest report on the status of implementation of the Commission's Recommendation makes the following comments

- **No appropriate cost accounting system:** - Spain, Greece, Ireland, Portugal;
- **The notified operator lacks an appropriate cost accounting system:** - Belgium, Luxembourg;
- **The overall system lacks transparency:** - Germany, France, Austria, Italy, Sweden;
- **The system is under review:** - Ireland, Luxembourg.

68. The Commission goes on to note that interconnection charges are beginning to converge on "best practice" rates. However, there are concerns as to the length of time required for negotiations, the lack of agreements in fixed telephony markets and inadequate "reference interconnection offers".

69. In Japan, there are two classes of telecom enterprise: a Type I, which requires a license to operate in the traditional telephony fields; a Type II, which is a "value-added" service provider that may have its own facilities. The "lines of business" are those for which the service provider is licensed; e.g., national long distance, cellular, local telephony, broadband services, etc. There is a well-defined process for license approval, including the requirement for a business plan

70. Japan has also begun work on an LRIC model of the local network. This model is an example of the "economic/engineering" approach, built using "best practice" and "best technology" criteria. The intended applications are to provide benchmarks for interconnection and Universal Service, assist in R&D, and allow simulations of the impact of differing criteria on costs. It is based on a causal approach, with a "Common" category. It is stated that it will be adjusted to reflect real world conditions.

### **Other Countries**

71. **Canada:** the Accounting Separation is done on an historic cost basis and splits the System of Accounts into two lines of business, Utility and Competitive. The Utility Segment includes Access + Monopoly Local Service + portions of "Other", "Common", and "Plant Under Construction". The Competitive Segment includes all other services and products, as well as non-telecommunications revenues and costs, plus the remaining portions of "Other", "Common" and "Plant Under Construction". Chapter 2 contains more detailed discussion on it.

72. **New Zealand** the Ministry of Commerce is proposing to establish an Accounting Separation system for the incumbent that would separate the telecommunications activities into two broad categories: “Local Loop” and “Other Telecommunications Activities”. The basis of separation of the System of Accounts would be on an historic cost basis, using an Avoidable Cost Allocation Method (ACAM). There would be two reports per year.

73. “Local Loop” includes what might be deemed the “natural monopoly” telecommunications business. It includes the loops, local switching, inter-office local trunking, and local value-added services that are primarily local or where there are no competitive alternatives at present (e.g., directories).

74. Using an ACAM approach, the “Local Loop” business is defined on a “stand alone” basis. Everything that can’t be avoided by ceasing operations of the “add-on” businesses is part of “Local Loop”.

75. New Zealand is also proposing to require accounting separations of the “Kiwi Share Obligation” business (basically the Universal Service Obligation of the incumbent). This would be assessed on an incremental cost basis.

76. In **United States**, the FCC has mandated accounting separations for the dominant carriers for years. These were initially on a Fully Distributed Cost Basis. In recent years, the FCC has moved toward Total Service Long Run Incremental Cost, plus a reasonable share of forward-looking joint and common costs, as a basis for interconnection services. It has also published benchmark interconnection charges for use by state regulatory agencies that have not yet developed state-specific interconnection charges.

77. Other countries, such as **Mexico**, are in the process of modernizing their regulatory environment, including accounting separations, interconnection charges, and so on.

78. India has proposed to move toward an Accounting Separation approach that has common elements with other world jurisdictions, while still reflecting the policy concerns that are unique to the Indian environment. The Service Specific Costing approach for products and services is in line with the approach adopted by other advanced justifications.

**Accounting Separation – International Experience**

<b>Country</b>	<b>Accounting Separation</b>	<b>Price Caps</b>
Australia	Has horizontal separations Working on vertical separations	Implemented for PSTN
Canada	Has horizontal and vertical separations	Implemented for PSTN
Japan	Has accounting separations for interconnection tariffs Proposed move to incremental costing in 2000	Implemented for PSTN in non-urban areas
New Zealand	Has proposed a “Line of Business” approach for the incumbent based on Avoidable Costs	
European Community	Has adopted a “line of business” approach	Implemented for PSTN
United Kingdom	Implementing incremental costs for network charges – using EC approach	Implemented for most retail services
United States	Has implemented incremental costs for interconnection charges	Implemented for most retail services

## APPENDIX 1-1

### Preliminary Information/ Data sought by the TRAI from Service Providers for the Tariff Re-balancing Exercise

#### I. **Basic Services**

Note: The data was required separately for the following categories in respect of the Department of Telecom Services:

- a) a) Circle-wise
- b) b) MTNL
- c) c) Other Metros
- d) d) Consolidated, giving a total picture.
- i) i) Number of DELs, on first of every month beginning from 1.4.99, exchange capacity category-wise for urban areas and rural areas separately, as also their utilisation figures.
- ii) ii) For each category of exchange capacity, information on rentals collected for each quarter, separately for urban and rural areas.
- iii) iii) Amount of security deposits as on 1.4.99, and increase in the security deposit for each month thereafter.
- iv) iv) Total number of metered units of calls made by subscribers (not including PCOs). This data should be provided according to different exchange categories in urban areas and for rural areas.
- v) v) Total metered units of calls from STD/ISD PCOs for different exchange categories separately for urban and rural areas.
- vi) vi) On a sample basis, the number of metered call units each hour within a 24 hour period for each day of a week selected for this purpose.
- vii) vii) Share of local calls, domestic long distance calls, and ISD calls in total metered call units.
- viii) viii) On a sample basis, distribution of local calls with duration:
  - a) a) Less than 3 minutes
  - b) b) Equal to or more than 3 minutes
- ix) ix) Distribution of domestic long distance metered calls according to different STD distance categories, separately for peak/off-peak time periods.
- x) x) Distribution of ISD calls according to different country categories, separately for peak-off-peak periods.
- xi) xi) Total number of metered calls, which are provided as free calls. This information to be given separately for urban and rural areas according to exchange capacity.
- xii) xii) Amount of revenue paid by Basic Service Provider to Cellular Mobile Operator.
- xiii) xiii) Amount of revenue paid by Cellular Mobile Operator to Basic Service Provider.
- xiv) xiv) Number of subscribers that exit the Network, separately for urban and rural areas on a monthly basis beginning from April'99.

- xv) xv)Entry of subscribers into the Network (month-wise), beginning from April'99.
- xvi) xvi)Distribution of subscribers:
  - -According to number of metered calls made by them.
  - -Rural/Urban separately for these categories.

**II. Cellular Mobile:**

- a) a)Monthly revenue from
  - i) i)Rentals
  - ii) ii)Incoming calls
    - -Revenue
    - -Number of minutes
  - iii) iii)Outgoing calls
    - -Revenue
    - -Number of minutes
  - iv) iv)Revenue from pre-paid cards
  - v) v)Revenue from Roaming
  - vi) vi)STD and ISD revenue collected beyond air-time and
  - vii) vii)STD and ISD revenue passed on to other operators out of (vi) above
  - viii) viii)Revenue from supplementary and value added services
  - ix) ix)Revenue e.g. Revenue from Installation
  - x) x)Security deposit, installation charges and other deposits collected, category-wise.
- b) b)Total revenue earned by Cellular Mobile Service Provider each month.
- c) c)Total number of subscribers (month-end) each month and every six months.
- d) d)Number of subscribers with pre-paid cards out of(c )above
- e) e)Average Revenue per user (ARPU) for post-paid and pre-paid subscribers
- f) f)Distribution of subscribers
  - -According to number of metered calls made by them;
  - -Rural/Urban separately for these categories.
- g) g)Incoming minutes of airtime (month-wise)
- h) h)Outgoing minutes of airtime (month-wise)
- i) i)Average per minute usage by subscribers
- j) j)Domestic long distance calls made on the service providers own Network. (number of minutes and classification, distance slb-wise).

**III. VSNL**

- 1) 1)Details of incoming and outgoing number of minutes of ISD calls separately for each country category.
- 2) 2)For each hour of the day during any selected week, number of minutes of calls made to each country category, and number of minutes of calls received from each country category.
- 3) 3)Number of minutes of ISD calls made to different country categories during peak off-peak hours (separately for different off-peak hours).

**IV. Leased Circuits**

- 1) 1)Leased Circuits provided for different speeds and revenue collected for these different speeds (please include a category also for speeds below 64 Kbps.

2) 2)Revenue collected by providing circuits on rent and guarantee basis.

**V** **Radio Paging Service:**

- i) i)Number of subscribers
  - -Alpha-Numeric
  - -Numeric
- ii) ii)Classification of subscribers into:
  - -individual
  - -closed user
  - -corporate clients
- iii) iii)Revenue from rentals
- iv) iv)Revenue from special services
- v) v)Total revenue

**APPENDIX 2-1**

**Proposed Directives: Depreciation and Other Accounting Procedures**

**1.Depreciation Procedures**

**1.1 Depreciation Records**

- A1 All service providers shall identify plant additions and retirements by depreciation categories.The depreciation categories shall be established in sufficient detail to reflect life characteristics of the plant within the respective categories.
- A2 Each service provider shall maintain continuous records that will permit the identification of accumulated depreciation, exclusive of salvage accruals, for each main asset account and, where feasible, for each depreciation category.
- A3 All service providers shall submit a document detailing the content and structure of the records identified in Directives A.1 and A.2 and their implementation schedule for approval.

**1.2 Life Studies**

- A4 Life analysis shall employ state of the art methods of statistical analysis or where appropriate, may include life span analysis, making use of standard survivor curves such as IOWA and Kimball curves.Life studies shall merge past experience with future expectations.The result of the life studies shall be given in terms of average service life and specific mortality dispersion pattern and shall be supported with detailed documentation and reasons for the estimated life characteristics determined by the study.These documents shall be available for audit.
- A5 All service providers shall develop schedules for life studies which recognize appropriate study periods for various accounts.The maximum interval between life studies shall be five years.These schedules shall be submitted for approval.

**1.3 Depreciation Method**

- A6 Straight Line Depreciation techniques shall be used.
- A7 The following are examples of the current average remaining lives of key segments of telephone plant in North America. These lives were developed in a highly competitive environment with a high penetration rate and may not be appropriate in the Indian context.

**Table 2-1: Comparative Lives of Telecommunications Plant (in years)**

Plant Category	Cable TV	Bell Canada	AT&T	LEC	TFI*
Distribution Facilities Coax & Fiber Metallic Cable	10-15	16-20	3.4-15	20-30	14-15
Circuit Equipment Analog Digital	7-14	10 12-14	2.5 7.2	8-11 11-13	6-9 8-9
Digital Switch	N/A	13	9.7	16-18	9-11
Fiber Cable	See Distribution Facilities	16-20	20	25-30	15-20
Vehicles	3-7	6-7	6.6	7.5-9.5	N/A
Furniture & Office Equipment Furniture Office equipment	9-11	6	5.6 9.3	15-20 10-15	N/A

\*Shows range of U.S. lives approved by the FCC as of Jan 1996. The "TFI" lives are the U.S. lives recommended by Technology Futures Inc., a company which researches and forecasts technology changes in the field of telecommunications.

- A8 The service providers in India must reflect the plans that they have for their capital assets in the forecast for service lives and the resulting depreciation rates. The Indian market and the aggressive expansion program is unique to the telecommunications environment and will result in analysis different from that of the United States.

#### **1.4 Exact Recovery of Capital**

A9 Each service provider shall adjust depreciation rates to ensure that future depreciation expenses together with the accumulated depreciation to date will result in the exact recovery of the original capital. These rates shall reflect the principle of remaining life in recognising changes in the estimates of service lives and in the retirement patterns of assets. Adjustments shall be made as follows:

Whenever the depreciation studies referred to in A.4 and A.5 indicate a discrepancy between the accumulated depreciation and a calculated theoretical reserve resulting from a revised asset life, a service provider shall implement an adjustment procedure designed to eliminate the discrepancy, the service provider shall report the amount of the adjustment. In the event that the discrepancy for a main asset account exceeds ten percent of the accumulated depreciation and the service provider does not propose to make an adjustment, the service provider shall seek approval of an appropriate course of action.

### **1.5 *Impact on Service Provider's Requirement for Revenues***

A10 Each service provider shall prepare and submit for approval a schedule for the introduction of major changes in depreciation rates. This introduction shall be accompanied by suitable evidence to demonstrate that the proposed changes in depreciation rates do not create an undue burden on subscribers or impact on a service provider's requirement for revenues.

### **1.6 *Salvage***

A11 Each service provider shall separate accounting for salvage from depreciation accounting. For the purpose of accounting for salvage, each service provider shall either:

- (a) (a) accrue annually for the estimated net salvage proceeds or net retirement expense during the life of the assets, or
- (b) (b) recognise net salvage proceeds and net retirement expenses as realised, provided that the service provider has demonstrated that such accounting treatment would not have a significant impact on the financial results of the service provider.

A12 The selection of one of the above accounting treatments for each class of asset shall not be altered without prior approval. If, in a given year, a service provider should experience extraordinary retirement expenses of salvage proceeds, the service provider shall immediately consult with the TRAI to determine an appropriate course of action.

### **1.7 *Location Life***

A13 The original installed cost of all depreciable plant shall be depreciated over its entire useful life, regardless of any relocation.

A14 When an asset is relocated, the labour and material costs of interim removal and reinstallation shall be expensed.

## **2. Other Accounting Procedures**

### **2.1 *Treatment of Overhead Costs***

A15 All overhead costs, which vary with the level of construction, shall be capitalised.

A16 All other overhead costs shall be expensed in the year of incurrence. The determination of the classification of these costs shall be subject to review by the Commission prior to the implementation of these procedures.

## **2.2 *Plant Items and Proposals for Capitalisation***

- A17 On initial installation, all expenditures associated with the construction of plant shall be capitalised, except in cases of distinct items such as tools, furniture, etc., where a minimum rule for capitalisation shall apply. The minimum rule criterion for capitalisation shall not apply to plant items.
- A18 Each service provider shall submit, for Commission approval, a list of items which, in its judgement, will come under the minimum rule criterion.
- A19 Under the minimum rule criterion, items with a unit value or Rs 10,000 or more shall be capitalized
- A20 For retirement purposes, the costs of plant items which are maintained in the Continuing Property Records or other similar records shall be appropriately adjusted to match the investment in the asset account.
- A21 On replacement or removal of units of plant, the associated costs shall be expensed.
- A22 On retirement of plant units, the actual or, if not available, the estimated original costs shall be removed from the fixed asset accounts.
- A23 Each service provider shall submit a comprehensive list of plant units together with explanations where necessary. In drawing up such a list, the service provider shall adhere to the following guidelines:
- (a) (a) a plant unit shall be a physically distinct piece of equipment or structure;
  - (b) (b) a plant unit shall take into account functional significance, movability and service life. It is possible for a plant unit in one situation to be a component of a plant unit in a different situation;
  - (c) (c) a plant shall consist of material items and equipment which are normally replaced as a unit;
  - (d) (d) a plant unit shall not include material items of significantly differing service lives;
  - (e) (e) a plant unit shall be readily recognizable, capable of being inventoried, and identifiable by reference to records of the service providers; and
  - (f) (f) a plant unit shall not be so broadly defined that a major acquisition of equipment will be charged to maintenance expense.

## **2.3 *Funds Used During Construction***

- A24 Each service provider shall capitalize funds expended during construction for all projects (costing Rs 500,000 or more and lasting more than three months). At the service provider's discretion, an allowance for funds used during construction may be charged on all projects.
- A25 Items shall then be allocated to the asset accounts accordingly and be amortized on a straight line basis.
- A26 The rate applied for allowance for funds during construction shall be the rate of return earned by the service providers during the preceding fiscal year. However, in some cases, depending on the earnings performance of a service provider in the previous fiscal year, the TRAI may, in consultation with that service provider, set a more appropriate rate.

## **2.4 *Treatment of Leases***



**Table 2-3: Calculation of Revenue Surplus/Shortfall - Year -Company X**

	Broad Financial Categories						Total
1. 1.Total Operating Revenues							
2. 2.Total Operating Expenses							
3. <b>3.Net Operating Revenues (Loss )</b>							
4. 4.Total Other Income							
5. 5.Total Other Expenses							
6. <b>6.Net Income ( Loss ) Before Financial Expense and Taxes</b>							
7. 7.Interest							
8. 8.Income Taxes							
9. <b>Sub-total</b>							
10. <b>10.Revenue Surplus ( Shortfall )</b>							

### APPENDIX 3-1

#### Proposed Directives and Definitions

**The TRAI proposes the following Directives and Definitions to provide a standard approach and format for Service Specific Costing as supported for tariff approvals for new service introduction as also for existing service.**

Directive 1.1:

A SSC study is required for all tariff approvals regarding a new service unless a prior exemption has been granted by the TRAI.

Directive 1.2:

If a SSC study is required, the detail, cost, size and effort of the study should reflect the size and significance of the proposed new service.

Directive 1.3:

The SSC study shall clearly explain the nature and purpose of the new service, relevant future developments, the rating approach and objectives rationale, the rate relationships and the operation of the service.

As appropriate, a block diagram shall be provided showing the types of plant resources used and indicating whether the resources are discrete or shared. It shall also indicate which Broad Financial Cost Category the various resources are associated with.

Directive 1.4:

The SSC study shall indicate how the proposed rate structure was developed.

Directive 1.5:

The SSC study period shall be the lesser of five years or the end of the service life.

Directive 1.6:

Within six months of the date of this Proposal, each service provider shall submit for TRAI approval a SSC Manual that describes the procedures, processes and data sources that the service provider intends to use to conduct SSC studies.

## **2 Market Information and Demand Estimation**

These Directives specify the information requirements for demand estimates in SSC studies.

Directive 2.1

Demand estimates shall be provided for each rate item for each year of the study period. Where the service is rated on a periodic basis, estimates of inward and outward movement shall be provided. Where the service is rated on a usage basis, or usage is a significant element of the rating structure, estimates of the appropriate demand drivers such as call duration, time of day and message type shall be provided.

Directive 2.2

The SSC study shall describe the market for the service and the expected market share, in the case of a competitive service.

In the case of a jointly offered service, the SSC study shall provide annual demand estimates for the service as a whole and for that portion of the service demand originating in the service provider's territory.

Directive 2.3

The SSC study shall explain the rating strategy used in developing the rates used in the study.

## **3. Revenue Estimation**

Directive 3.1

Revenue estimates shall be provided in current rupees for each rated service element; e.g., monthly rated items, usage rated items, installation charges, etc.

Directive 3.2

SSC studies of jointly provided services shall provide current rupee estimates for total annual revenues from all service providers offering the service as a whole and settled annual revenues for the service provider submitting the study.

## **4. Resource Estimation**

Directive 4.1

The SSC study shall describe and provide estimates of the quantities of all direct resources used in the provision of the service.

Definition 4.1

Direct resources consist of those elements of management, labour, equipment, plant, material and supplies that can be readily identified and quantified. They should represent the major additional resource requirements for the study period.

#### Directive 4.2

For plant and equipment resources, the amounts to be held in reserve or in inventory shall be included and separately identified.

#### Directive 4.3

The SSC study shall provide a description of all indirect resources required for service provision and an explanation of the relationship of the indirect resources to the direct resources.

#### Definition 4.3

Indirect resources consist of those elements of management, labour, equipment, plant, material and supplies that are required in support of the direct resources. In general terms, these are items which are minor and can be reasonably be applied as loadings on the direct resource costs.

#### Directive 4.4

The SSC study shall provide a description and, if possible, annual estimates of variable common resources used in the provision of the new service.

#### Definition 4.4

Variable common resources consist of all the remaining resource costs where the amounts are variable with the scale of operations of the service provider. It would include the proportion of the variable costs of all operations not covered in the direct or indirect costs of the service.

#### Directive 4.5

The SSC study shall indicate the methods and techniques used to determine the quantities of resources used in providing the service.

## **5. Cost Estimation**

#### Directive 5.1

Cost estimates for each type of direct resource shall be estimated by multiplying the forecast resource quantity by the current unit cost of the resource.

#### Directive 5.2

The current unit cost of a given resource shall consist of the price of the direct resource adjusted to included an allowance for costs of applicable indirect resources and, where applicable, an allowance for variable common costs.

As an example, a current unit cost for labour would be made up of the current labour rate adjusted to reflect benefits, overtime, direct supervision, etc.

A current unit cost for an item of new plant and equipment would be made up of the current price adjusted for ordering, sales taxes, transportation, warehousing, installation, etc. For reused plant and equipment, the current unit cost would be equal to the undepreciated capital cost adjusted for net salvage or retirement expense accruals to date.

A current unit cost for shared facilities may be developed using a “capacity cost” approach. If this approach is used, the unit cost shall reflect a working fill factor determined over a time period of sufficient length to be an appropriate average for the related facility type and application.

#### Directive 5.3

The SSC study shall provide annual estimates of each major category of variable common cost resources used in providing the service. These estimates shall be based on studies to determine and allocate the appropriate proportion of these cost categories to specific services.

Directive 5.4

The SSC study shall provide a description of the methods, techniques and procedures used in unit cost estimation.

Directive 5.5

For the SSC study period, annual capital cost estimates shall be provided for each major plant and equipment resource category, identified by major asset account.

Directive 5.6

For the SSC study period, annual expense estimates shall be provided for each labour resource category, identified by major expense account.

Directive 5.7

The SSC study shall provide a description of the service development costs incurred as a result of product testing, market testing, economic evaluation studies and personnel training prior to service introduction.

These costs shall be reported on a memorandum cost basis and shall not form part of the cash flows of the SSC study.

Directive 5.8

The SSC study shall provide estimates of the value of plant and equipment that continue to be useful beyond the study period. These estimates shall be based on the undepreciated capital costs adjusted for net salvage or retirement expense accruals to that date.

Directive 5.9

The SSC study shall provide cost adjustment factors for all specified costs and shall provide supporting explanations. In a similar manner, productivity adjustment factors shall also be used and explained.

Directive 5.10

A SSC study of a jointly offered service shall provide cost estimates for the resources required to provision the service as a whole and for the resources required to provision the service in the service provider's territory.

## **6. Evaluation Methods and Criteria**

Directive 6.1

The SSC study shall provide the present worth of all major elements of revenue, resource costs and income tax cash flows over the study period.

Directive 6.2

The cash flows shall be used to calculate the Net Present Value ( NPV ).

Definition 6.2

NPV is the present worth of all cash inflows less the present worth of all cash outflows, where both inflows and outflows are derived using the revenue and cost estimation methods and procedures described earlier.

The Present Worth of any benefit or cost is determined by discounting the cash flow from the time of its occurrence to the present, using the service provider's approved current cost of capital as the discount rate.

Directive 6.3

The SSC study shall use a specific formula for NPV calculations that reflect the necessary adjustments for tax considerations. Such formulae shall be submitted for TRAI approval in the SSC Manual of each service provider.

Directive 6.4

The SSC study shall indicate the tax rates and other tax related information used in the study and the rationale for their treatment. Included in this information shall be estimates of annual tax effects resulting from service introduction.

Directive 6.5

Each service provider shall submit its discount rate to be used in SSC studies for TRAI approval on an annual basis or more frequently, if required. This discount rate shall be based on the service provider's current cost of capital.

Directive 6.6

Each SSC study shall translate the revenue and cost cash flows into annual pro forma statements indicating the financial impact of the new service on the Income Statement and Balance Sheet over the study period.

Directive 6.7

In general, the TRAI will require that a proposed new service be profitable, as indicated by a positive NPV within the study period. In the case of competitive services, the study should indicate that the NPV has been maximized at the proposed rates.

Exceptions may be made for basic services to achieve social and other objectives.

## **7. Monitoring and Tracking**

Directive 7.1

Each SSC study shall include a monitoring and tracking plan for rates and for all major elements of demand, revenue, resource quantities and related resource costs which may significantly impact the study estimates.

The service provider shall provide the actual results to the TRAI, as required, along with an explanation of significant variances and proposed action plans, if appropriate.

## **APPENDIX 3-2**

### **Functional Operating Expenses**

#### **Short Term**

An illustrative list of Functional Operating Expenses is intended to reflect the way in which operators are expected to record costs and it indicates those operating expenses that would be classified as direct or indirect costs. Individual operators will need to develop cost allocation procedures specific to the way in which they currently capture and record costs, and to refine these over time, as required. These costs would typically be found in the following Expense Accounts:

- •Provision, installation and maintenance costs
- •Network planning and development
- •Network management
- •Network Maintenance
- •Operator Services
- •Directory Services

- •Service Order Field Execution
- •Marketing and Sales Activities
- •Billing and Collection
- •Payments to other operators

Direct and indirect costs are defined in **Appendix 3-1**.

The direct and indirect costs should include the applicable loadings for:

- •Pensions and benefits
- •Senior Management salaries
- •General Support salaries
- •General Support non-salary expense
- •Premises costs
- •Administrative Services costs
- •General Furniture and Office Equipment for Premises costs
- •General Furniture and Office Equipment for Administration costs
- •Other Tools and Work Equipment costs
- •Motor Vehicle costs ( running and non-running costs ).

To the extent practicable, these Functional Operating Expenses should be disaggregated by activities and used in SSC studies as applicable. It is recognized that it may not be possible to develop a complete disaggregation quickly if the underlying System of Accounts structure does not permit.

## **Long Term**

### **Function: Network Management and Network Maintenance**

#### Expense Activity

Dial Assigning – Line and Number Administration Service Order Related Costs

Dial Administration

Dial Services

Traffic Engineering Local Trunk Design

Traffic Engineering Long Distance Trunk Design

Systems Engineering

Function: Operator Services and Directory Services

#### Expense Activity

Centralized Automatic Message Accounting ( CAMA ) Operator Number Identification

( ONI ) Expenses

Traffic Operator Position System ( TOPS ) Station-Station Expenses

TOPS Person-Person Expenses

TOPS Overseas Expenses

Local / Long Distance Assistance “0” Expenses

Gateway Assistance / Gateway Overseas Expenses

Long Distance Directory Assistance Expenses

Local Directory Assistance Expenses

Free-Phone ( “800” ) Directory Assistance Expenses

Intercept Expenses

Directory Assistance Service Order Related Expenses

Intercept Service Order Related Expenses

Rate and Route Expenses

Operator Records Expenses

Official PBX Expenses

Emergency Service Answer Expenses

**Function: Operator Services and Directory Services ( Directory Related Costs )**

Expense Activity

Directory Expenses

Extra Listing Expenses

Function: Service Order Field Execution

Expense Activity

Installation and Control Centre

Customer Services Assigning

Repair Service Bureau Costs

Repair Service Bureau Tester Costs

Switching Centre Labour Costs

Switching Centre Material Costs

Customer Services Location ( Travel ) Costs

Expense Activity: Installation Labour – Job Layout Costs

Expense Activity: Installation Labour – Outside Serving Entrance Wiring

Installation Labour – Inside Wire Labour Costs

Miscellaneous Connection Data – Installation Related Costs

Miscellaneous Connection Data – Service Order Related Costs

Miscellaneous Connection Data – Telephone Set Related Costs

Installation Labour – Jacks Related Costs

Installation Labour – Clean Up Costs

Installation Labour – Additional Pick-Up Costs

Installation Labour – Customer Contact Costs

Installation Material – Outside Serving Entrance Wiring Costs

Installation Material – Inside Wire Costs

Installation Material – Jacks Costs

**Function: Marketing and Sales Activities**

Expense Activity

Business Sales, Results Achievement Program Accrual, Customer Seminar Group, Coordination Group, and Marketing Services costs

Customer Telemarketing Training Seminars

Residential and Small Business Telemarketing

Telephone Card Telemarketing Expenses

Business Office – Customer Account Query

Business Office -Service Order Activities

Customer Instruction and Business Service Activities

Interface with Service providers

Store Outlets – Regular Service Offerings

Sale In-Place – Inventory Activities

Sale In-Place – Sales Activities

Custom Services – Contract Costs  
Turnkey Contracts – Unbilled Approved Contract Costs  
Phone Pass Vending Machine  
Hotel / Motel Service Commissions  
Public Telephone Commissions

**Function: Billing and Collection**

Expense Activity

Customer Record and Billing:

- Service Order Work
- Regular Long Distance Messages
- Regular Account Processing
- Special Accounts Processing
- Centralized Long Distance Investigation

Centralized Mail Remittance

Business Office Collection Activities

Credit Card Commissions – Card Phone System

Coin Telephone Collections

**Function: Sales Promotion**

Advertising and Promotion Expenses

Product Management and Control Expenses

Share of Joint ( with Partner ) Product Management and Control Expenses

**APPENDIX 3-3**

**LABOUR UNIT COSTS**

1. 1.As discussed in Chapter 3, a “base group” is the labour force that performs the specific job function. A “base hour” is the time spent by the base group in the regular and the overtime mode to perform a specific job function.

**Direct Cost Component:**

2. 2.These are those readily identifiable costs which are directly related to the performance of a specific job function.
3. 3.These cost components may be either capitalized or expensed for accounting purposes, depending upon the nature of the job function being carried out.
4. 4.These costs include the salary / wage of the base group and loadings for:
  - •Premium costs ( premium overtime; e.g., double time );
  - •Paid absent time ( vacations, holidays, scheduled days off, etc. );
  - •Supervision to middle management;
  - •Clerical support;
  - •Pensions and benefits for the base group and the above loaded personnel.

**Indirect Cost Component:**

5. 5.These are the costs incurred in support of the personnel engaged in the performance of the specific job function described by the Direct Cost Component.
6. 6.These costs are usually expensed for accounting purposes, regardless of the nature of the job function being carried out by the base group.

7. 7. These costs are expressed as a cost per base hour and consist of the following loadings on the salary / wage of the base group:
- • Training;
  - • Unclassified ( time spent at meetings, conferences, seminars );
  - • Senior management salaries ( generally below Executive level );
  - • General Support salaries;
  - • General Support non-salary expense;
  - • Pensions and benefits for the above loaded personnel ( excluding the base group );
  - • Premises costs ( e.g.; light, heat, water, etc., for both the base group and the loaded personnel );
  - • General Furniture and Office Equipment for Premises costs;
  - • Administration Services ( for both the base group and the loaded personnel );
  - • General Furniture and Office Equipment for Administration costs;
  - • Motor Vehicle ( running and non-running costs );
  - • Other Tools and Work Equipment costs.
8. 8. A related topic is the development of cost factors for the purpose of loading material items. Consider the following example of developing Warehouse and Distribution Cost Factors.

### **Warehouse Costs:**

9. 9. These are the costs incurred by Material Personnel in activities such as acquisition, storage, handling, Central Warehousing Inventory Control, transportation and other related services associated with the supply of materiel from the manufacturer or from stock at the main corporate warehouses.
10. 10. The Warehouse Costs are distributed over the total value of “Stock and Reshipment” Materiel Value and “Refurbished” Materiel Value.

### **Distribution Costs:**

11. 11. These are the costs incurred by Local Storeroom Materiel Personnel in ordering, storing, handling, transportation and other related services associated with the supply of material shipped between the main corporate warehouses or manufacturer and local store rooms or installation locations.
12. 12. The Distribution Costs are distributed over the total value of all shipments; i.e., (“Stock and Reshipment” + “Refurbished” + “Direct Shipment” + “Return Shipment”) Materiel Values.
13. 13. As before, the Cost Factors are separated into Direct and Indirect Cost Factors. The Direct Cost Factor may be either capitalized or expensed for accounting purposes, depending upon the nature of the project or function for which the materiel is to be used.
14. 14. Components of the Direct Cost Factor would be such elements as:
- • Salaries for General Warehouse Activities;
  - • Salaries for Warehouse Transportation Activities;
  - • Salaries for Materiel Handling Activities;
  - • Salaries for General Distribution Activities;
  - • Salaries for Distribution Transportation Activities;
  - • The other components of Direct Costs referenced above; e.g., supervision.

15. The Indirect Cost Factor is always expensed. Components of this Factor would include such elements as:

- Annual Equivalent Costs( AEC ) of the investment in:
  - Materiel Work Equipment – Warehouses;
  - Materiel Work Equipment – Distribution Centres;
  - New Materiel from Suppliers;
  - Refurbished Materiel;
  - Materiel on consignment;
  - Other new materiel;
- Warehouse Operating Costs;
  - Rent;
  - Maintenance and repair;
  - Services;
  - Administrative costs;
  - Property taxes;
  - Light, water and heat;
  - AEC of warehouse investment.
- Appropriate amounts of:
  - Motor vehicle costs;
  - Indirect salary loadings;
  - Pensions and benefits, premises, and administrative service costs on direct salaries;
  - Tools and equipment;
  - General Furniture and Office equipment costs.
- Inventory Management Costs and associated salary loadings.

## APPENDIX 3- 4

### Service Specific Study Report Formats

1. The output of a Service Specific Study is generally presented in a standardized format. However, there is room for flexibility in those cases where the nature of the study requires that additional information be presented, or where certain information is not required or is not available. In the example that follows, the tabular formats are intended to be representative of the general case. However, not all of the tables may apply in every case; for example, if the study is a “resource cost” study, then no revenue information will be available because there is no demand forecast.

**Table 3.1**

**Economic Parameters and Tax Rates**

Parameter	Value	Comments
Cost of Capital	X %	
Cost of Debt	Y%	
Debt Ratio	Z%	

Variable Common Cost	A%	
ROE-Common	B%	Target rate
Income Tax Rate	C%	
Other Tax Rate	D%	As applicable

2. 2.This is usually the first set of numbers to be presented and they are generally not in dispute. These numbers may be filed in confidence with the Regulator.
3. 3.The “Other Tax Rate” may include such things as Capital Gain Taxes, Corporate Taxes etc.Each individual “Other Tax” would be specified.
4. 4.The next set of numbers to be presented would be the Prospective Incremental Costs. These would be disaggregated by major tariff element and cost component.
5. 5.There could be two sets of cost numbers presented. The one set would be those prospective incremental costs that vary with some cost or demand driver and that can be unitized. There are also prospective incremental costs that do not vary with demand and thus cannot be unitized. They must be recovered from the proposed rates.

**Table 3.2**  
**Summary of Prospective Incremental Costs**

Total Cost Impacts	Year 1	Year 2	Year ...	Year N
<b>Expenses Causal to the Service</b>				
Methods & Procedures:				
- Operations				
- Billing –related				
Other				
<b>Capital Causal to the Service</b>				
Hardware				
Software				
Other				
<b>Capital Causal to Demand</b>				
Outside Plant Equipment				
Switching Equipment				
Transmission Equipment				
Support Plant				
Land & Buildings				
Other				
<b>Expenses Causal to Demand</b>				
Maintenance				
Service Provisioning				
Advertising				

Sales Management				
Billing				
Other				

**Table 3.3**  
**Compensatory Test Results ( Unit Basis )**  
( Example )

Tariff Elements	Revenue	Costs	Difference
Element #1	Rs100.00	Rs80.00	Rs20.00
Element #2	Rs90.00	Rs72.00	Rs18.00
Element #3	Rs50.00	Rs40.00	Rs10.00
Service Charge	Rs35.00	Rs28.00	Rs7.00
Other Charge	Rs50.00	Rs40.00	Rs10.00

6. The “Element #” could be a usage charge, a flat rate charge, and generally whatever the nature of the rate structure may be for the particular service or product being studied. As is indicated in **Chapter 3**, it is often necessary to deal with aggregates of rate elements where they may be numerous. An example might be features on a PBX; these can number in the hundreds and it is common for these to be grouped into feature packages for marketing purposes. Thus it makes sense to assess the revenue impact on the same basis.
7. The purpose of the “Difference” column is to allow assessment of the amount of contribution built into the proposed rates to recover the incremental costs causal to the service (**Table 3-4**) and the pre-introductory costs (**Table 3-5**). It should be noted that the Variable Common Costs are already part of the costs. In addition, it may be appropriate to assess the level of contribution to Fixed Common Costs. In this example, we are simply building in a 25% markup, but there is no reason to limit the markup to this percentage if the circumstances warrant it.

**Table 3.4**  
**Prospective Incremental Cost That Cannot Be Unitized Without A Demand Forecast**

( Example )

**Component**

Billing

Development Capital                      Rs4000  
Development Expense                      Rs25,000

Operations

Total    Rs100,000

8. This would cover such things as the additional personnel for writing methods and procedures for the operational groups to handle new requests for a new and different

service and product that cannot be dealt with in the usual way. It would cover such things as the development of billing related methods and procedures to support an entirely new class of customer, for example.

**Table 3.5**  
**Pre-Introductory/ Pre Commissioning Costs**  
**( Example )**

**Component**

Planning and Preparation Rs500,000

9. This would cover the work done leading up to service introduction which has been incurred for the purpose of service design and related matters. If the decision had been to not proceed with the service, these costs would still have been incurred. However, it is useful for the Regulator to be able to assess the extent to which services that are introduced contribute to covering such costs.