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**ACCOUNTANCY SYSTEMS IN STATE  
ELECTRICITY BOARDS --  
DEVELOPMENTS & REQUIREMENTS**

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## ACCOUNTANCY SYSTEMS IN STATE ELECTRICITY BOARDS - DEVELOPMENTS AND REQUIREMENTS

With the increasing importance given to the power development programmes in the successive Five Year Plans, proper and effective financial management of the State Electricity Boards (SEBs) have progressively become significant. During the sixth Five Year Plan, the power sector is expected to invest over Rs 16,050 crores. The bulk of the resources is going to come from the budgetary sources of the state governments. Funds for expansion are also expected to come from the financial institutions. These lenders would also wish to assess the economic viability and vulnerability of the Boards.

The need for financial information with regard to SEBs' operations would be strongly felt by the economic planners in allocating resources and the financial institutions in extending credit. The management of the Board would require upto-date financial information in formulating major plans and policies, in controlling the operations, and in setting suitable tariffs. There is no doubt that SEBs need to have an efficient and effective accounting system which would cater to such diverse needs.

SEBs' Accounting : Genesis

SEBs had their origin in the Public Works Department (PWD) of the state government and the accounting system followed by the SEBs is modelled on the one followed by PWD. Such an accounting system, in essence, is stewardship oriented and mainly geared towards custodianship. Stewardship orientation involves accounting for entrusted funds and preventing frauds by setting controls and checks in the system. The shortcomings of such an accounting system can be summarised as follows :

First, the accounting systems have developed independent of the requirements of the policy formulation and related administrative purposes. They have largely concentrated on providing a set of detailed appropriations accounts ensuring funds accountability. The amount of economically useful information generated by the enterprise accounting system for decision making is often scanty, unreliable and untimely. It is, therefore, essential that apart from procedural changes, the approach should be commercial management oriented, and the level of financial management be improved by the adoption of modern concepts and techniques.

Second, even in the limited areas of accountability, inordinate delays in the compilation of accounts have substantially reduced the effectiveness of the system.

Third, because of inadequate, irrelevant and in-orderly classification, the accounting system does not help in the functional and economic assessment of the SEBs' operations. Cumbersome and antiquated control techniques revolves round the conventional procedures hampering the development of accounting as an integral part of Management Information System (MIS).

Fourth, the system has overemphasised the recording of cash receipts and disbursements rather than measurement of costs. The value of cost accounting as a tool for performance measurement, cost control and budgeting is rarely understood. Budgets are mere allocation of funds and are rarely used as planning and control instruments. Standard cost systems and modern management techniques are not applied effectively and a sense of cost consciousness is generally lacking right from the top to the bottom in the organisational hierarchy. Effective management control systems are generally missing.

The PWD accounting system in SEBs have endured over a long time and have served the purpose of accountability and stewardship. May be that is what one needs to account for in a government department. The needs of today's SEBs are different. They are like commercial enterprises which are in business of generating and supplying the electricity.

The existing system has to be seen in terms of what the accounting system is expected to do in a commercial unit engaged in generation, transmission and distribution of electricity. The state governments provide major part of their funds, but like other public sector undertakings, they have to evolve their own accounting and management control systems which would ensure regular supply of energy at a reasonable cost to their customers and earn a reasonable rate of return on their capital investments.

SEBs' Current Accounting Practices : A Hybrid System

Accounting in SEBs deals with collection, measurement (classification and valuation), control and stewardship of receipts, expenditures and related activities. It primarily serves the fiduciary function, that is, its purpose is to keep track of funds and to ensure that they are spent honestly. It records business transactions in a manner which helps in ascertaining values of the assets and liabilities at the year-end. Revenue and operating expenses are accumulated over the year and the revenue surplus for the year is calculated. The appropriation of the net revenue is then done according to Section 67 of the Electricity (Supply) Amendment Act, 1978. The net revenue in this case is implicitly defined as excess of cash receipts over cash expenditure. Section 67 states the manner in which

surplus is to be utilised in making payment of liabilities due. Provision for depreciation is relegated to Section 68 which states "subject to provision of Section 67 the Board shall provide each year for depreciation and where depreciation cannot be provided, in any particular year, the same may be carried over to subsequent years."

The treatment of various accounts heads in the SEBs accounting system emphasises the cash basis of accounting which reinforces the fiduciary concept and restricts the use of accounting data to stewardship function only. To have decision oriented data, the Boards have to adopt a commercial system of accounting. A simple, but fundamental concept of commercial accounting, is the accrual concept. Accrual concept emphasises that accounting should focus on cost of resources consumed as contrasted with resources purchased, and similarly on revenues earned and not the revenues received.

In the current accounting system of the Boards, these two concepts (cash and accrual) are intermingly used. For instance, in commercial method of accounting, depreciation for the use of assets during the year is a charge against revenue of the year and must be provided for irrespective

of whether the revenue surplus is available or not. In current system of accounting of SEBs depreciation is provided only if surplus, after paying interest and loan liabilities as specified in Section 67, is available. Similarly, interest due on outstanding loans is an expense for the year for utilising the capital resources in earning revenue for the business, and must be shown as a charge against revenue of the year. If funds are not available to pay the interest due, it must be shown as accrued liability. In SEBs, unpaid interest is shown as contingent liability as a foot-note to the financial statements and does not form an integral part of the accounts. In the accrual concept, however, the contingent liability is defined as :

"an existing condition, situation or set of circumstances involving uncertainty as to the possible gain or loss to an enterprise that will ultimately be resolved when one or more future events occur or fail to occur. The resolution of uncertainty may confirm the acquisition of an asset or reduction of a liability or the loss or impairment of an asset or the incurrence of a liability".  
(Hawkings in Corporate Financial Reporting, p.736)

Non-availability of funds to pay interest due does not make it contingent expense as far as the revenue determination for the year is concerned. It might be contingent in the sense that it would be paid only when the funds are available but in that case all other liabilities shown in



the balance sheet would also be paid only when the funds are available. Therefore, legal provisions for the payment of interest liability contingent on funds availability does not call for a different accounting treatment unless the state government forgoes the collection completely. If the state government decides to waive dues completely or partially, the waived amount should be included as revenue like government subsidy or a grant for the year. Moreover, Act specifies only the priorities in which available surplus would be disbursed and does not call for due interest to ~~be treated~~ like a contingent liability. Section 67 specifies the priorities for disbursement of cash surplus, but this should not be a cause for misrepresenting financial information in SEBs' annual reports.

For many years, there has been a talk about SEBs switching over to the commercial method of accounting and the Central Electricity Authority (CEA) has been advocating the adoption of accrual concept repeatedly in their communi-ques to the Boards; but when it comes to standardising the "forms for compilation of annual accounts of State Electricity Boards"\* instead of clarifying the concept, CEA made it more confusing. For instance, if one looks at their

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\*Recently circulated by the CEA with a reference that these have been approved by the Comptroller and Auditor General of India vide his letter No. 876-CA. IV/52-77 dated 28th November, 1978.

suggested "Schedule 23 - Forming Part of the Net Revenue and Appropriation Account - statement showing apportionment of Interest Charges", it is difficult to understand which method of accounting - cash or accrual - is being followed. It would be interesting to find out their use of the term 'Net surplus from Revenue Account'. For example, amount written off on tangible assets (i.e. depreciation) has been shown in "Revenue Account", while the amount written off on intangible assets is shown in 'Appropriation Account'. There is no conceptual difference between these two types of amortization which would call for a different treatment in the accounts.

The confusion arises due to overenthusiasm for adopting commercial method of accounting on the one hand, and the inability of totally giving up the traditional method of governmental accounting. Result is a hybrid system which meets the requirements of the law but generates data which are hard to interpret and use in a meaningful way.

The financial accounting system of the Boards needs to be rationalised. The classification and aggregation must be logical, systematic, and meaningful. In my opinion, the CEA, in suggesting accounting formats, has tried to follow the legal provisions without trying to understand and then resolving the conceptual issues involved in the

commercial accounting system. One must recognise that the Electricity (Supply) Act specifies only the priorities in discharging the liabilities and not the system of accounting.

#### Proposed Financial Reporting in SEBs

The basic financial statements which SEBs as commercial organisations should prepare are :

1. A statement of Financial Position which is also known as Balance Sheet.
2. A statement of Net Income, and
3. Funds Flow statement.

The first statement would list the resources (including capitalised and unamortized deferred revenue expenditure) owned, and its obligations (including accrued liabilities). Obligations must include that portion of the interest which is due but remains unpaid because of non-availability of funds.

The Income Statement would record all the revenues earned during the year and the related costs whether they are paid or not. An accrued but unpaid expense must be charged to the revenue of the year in Income Statement and be shown as liability in the Balance Sheet. Excess of revenue over expense will be available for appropriation.

Funds Flow Statement would incorporate the funds generated from the operations (which would be net income plus non-cash expenses like depreciation, etc), borrowings

during the year, subventions from government, consumer deposits, realization from sale of fixed assets, etc. The uses of funds would include acquisition of the new facilities, repayment of loan and increase in working capital. A decrease in working capital would be shown as source of funds. Further a statement of change in working capital incorporating changes in cash balances, accounts receivable, inventory held, and changes in the current liabilities would include interest due but not paid on government loans and this would be treated like a source of funds. This statement would be a modified and corrected version of the statement no. 7 suggested by the CEA (reference cited above).

The income statement would indicate profitability and the earnings power of the Board, which the Funds Flow statement will help in planning for funds in future, i.e. in assessing the funds requirements and in exploring the possible sources of finances based on the past source and uses of funds.

Further, if Boards' financial statements are to be useful and if they are to fulfil their fundamental objective, they must possess the following characteristics: They should be relevant, understandable, reliable, complete, objective, timely and uniform so that they are comparable.

Management Control Systems in SEBs

Anthony defines the management control as, "the process by which managers assure us that resources are obtained and used effectively and efficiently in the accomplishment of organisation's goals." For an organization, the first task is to define its objectives and set the appropriate goals. Management control process is intended to facilitate the achievement of these goals at minimum costs.

SEBs operate under an unique environment where they are expected to perform well commercially and at the same time engage in a developmental task of making electricity available to the underdeveloped areas. As a commercial unit, it is supposed to achieve a certain level of output and make profits but such well defined objectives get diffused when they are asked to undertake developmental activities. Multiplicity of objectives creates confusion and a clear cut measurement of performance is difficult. Emphasis on optimal usage of resources may restrict the supply of cheap electricity to remote and backward areas. These conflicts need to be resolved by stipulating an appropriate trade-off between goals. Without clarifying these conflicts, it is difficult to design an effective Management Control System.

The other problem faced by the SEBs in designing an effective control system is their 'accountability' to several constituencies. SEBs are political, that is, they are responsible to the government and to a legislative body that presumably represents the electorates. There are multiple pressures on SEBs' management, which tend to induce an emphasis on short-term goals ignoring the long term effects. Need for public visibility calls for 'expedient' decisions which are not based on careful analysis. The political and public policy influence are to be reckoned with.

The other factors responsible for lack of effective control in SEBs are lack of competition and the presence of monopolistic powers which make organisational set up imperious rather than service oriented. Employees - **with** complete job security - do not care to excel. The attitude and motivational characteristics of these employees make internal evaluation and control a difficult task.

Keeping the above characteristics of the SEBs in view, we will discuss some of the control mechanisms by which their performance can be improved. Some of the useful concepts and techniques in Management Control Systems are discussed below.

## 1. Responsibility Accounting

Any organisation, except the smallest, can be divided into units which are called responsibility centres which comprise of a group of persons headed by a manager who is responsible for what he does. The centre exists to accomplish one or more purposes which are intended to help achieve the overall objective of the organization. One of the functions of the top management is to plan, coordinate and control the work of all these responsibility centres. For each responsibility centre, budgets are prepared, proper indices are developed to measure performance, and thus make them accountable for their working.

The responsibility centre can be classified as a revenue centre, if it generates revenue, or a cost centre, if it provides services to other co-centres and does not generate its own revenue from outside sources.

In SEBs, for control purposes, respective responsibility centres should be clearly defined. Currently, divisions are taken as cost centres for budgeting operations and maintenance costs. With continuous growth in the business, division has become too large an entity to exercise any effective control over its expenses. A sub-division under Assistant Engineer should be taken as a responsibility centre. Responsibility for each sub-division should be clearly specified in advance and appropriate

budget be allocated based on predetermined norms. Budget for each cost centre can be prepared into two parts, one for normal operations covering wages, and second for normal maintenance covering stores and spare parts. Expenditures should be booked against each of these estimates and periodic deviations are to be reported at regular interval for effective control.

Centre responsible to execute the capital expenditure programmes should be called an investment centre. Detailed estimates of planned capital expenditure need to be worked out and respective expenses should be booked appropriately against each estimate. Accounting records and control for an investment centre need to be segregated from regular operations. A periodic performance report along with expenditure incurred should be compared with planned activities and related estimates. It is equally essential to develop a system which ensures that the targets are kept and the attention of the management is drawn to bottlenecks at regular intervals.

## 2. Performance Budgeting

Performance budgeting enables the management to establish relationship between costs and results. After the detailed operating plans have been agreed upon, the actual performance is compared against the planned per-



formance, and variances are computed. Report on the variances would enable the management to take necessary corrective action. This is also known as 'Management by Exception'.

To do 'Management by Exception' in practice, certain technical norms are to be evolved and pre-determined goals are to be agreed upon. To establish technical norms a 'Standard and Method cell' in each Board should be created. This cell would help in determining the acceptable level of the plant utilisation, fuel consumption, line losses, and assist in setting organizational norms for staffing, etc. Based on these norms, budgets for each responsibility centre would be prepared. Currently, budgets are prepared to secure funds and not much use is made of them as tools to monitor the actual expenditure against the planned expenditure. In performance budgeting system, based on actual performance, the variance would be computed and their causes would be analysed. Variances due to environmental and uncontrollable factors would call for a change in the budget estimates. For variances due to controllable factors, the head of the responsibility centre could be called for an explanation and corrective actions could be initiated. The process would help in keeping accurate cost records and also in ascertaining the cost-to-serve for

different categories of customers. Cost-to-serve data would be most valuable in formulating an appropriate tariff structure.

### 3. MIS in SEBs

Management Information System (MIS) plays an integral role in planning and control of business operations. Information system can be categorised as planning and reporting. The planning system utilizes both internal and external data. It should be developed to complement the strategic objectives of the SEBs as well as to provide personnel with the ability to examine alternative courses of action. The reporting system should indicate progress in terms of the plant utilization, energy generated and sold, length of transmission lines added, number of consumers added, energy sold to different categories of consumers, revenue collected, etc. To implement 'Management by Exception' variance reports in relation to performance budgets must be prepared.

The reporting system should be responsive to the following key questions :

- How much money did the Board make or lose?
- How do these results compare with expectations?
- Why were the results different from expectations?
- Who was responsible?

The reports should measure the effectiveness of the actions in terms of the planned objectives. It should prompt decisions for the improvement of the situation which is the essence of the control phase.

For maximum effectiveness, management reporting should be timely and exception oriented. It should follow the lines of responsibility and sub-system reporting should be integrated with the main flow. The use of computers in this respect facilitates an accurate, economic, and timely system for processing information for each organizational and management unit. Performance audit can supplement the regular reporting whenever it is necessary.

#### 4. Cost control & Cost reduction

To improve financial performance, the Boards have to put greater emphasis on cost control; and efforts should be made to reduce the cost. Costs must be known before they can be controlled and should also be highlighted in a manner that indicates who should investigate what. This requires a good management accounting system.

There are certain broad areas and approaches for cost reduction that require consideration.

a) Plant Utilization

- i) An integrated system of electricity supply over a large area.
- ii) Efforts to flatten the load curve.
- iii) Regular preventive maintenance.
- iv) Reduction in plant downtime (outage).
- v) Control of transmission and line losses; norms for acceptable level of technical losses. Non-technical losses like pilferage, unauthorised connections, and mistakes in billing need to be controlled.

b) Fuel Management

- i) Improve fuel efficiency, establish norms for each generating stations.
- ii) Control fuel loss in transit.
- iii) Proper boiler maintenance to improve fuel efficiency.
- iv) Instal weighing bridge at each generating station to record accurately the use of fuel.

c) Establishment

- i) Rationalise staffing pattern.
- ii) Develop organizational norms for staffing - for instance, in transmission system staffing norms would depend on nature of load, load density, geographical conditions, type of consumers, and area covered.
- iii) Streamline procedures for staff review and evaluation.
- iv) Separation of staff for capital works and O & M, wherever feasible.
- v) Streamline payroll accounting with Personnel Department records, to avoid bogus payments.

d) Materials Management

- i) Accounting unit for stores should be at sub-station level and centralised control at Head Office level.
- ii) Separate accounting for use of stores and spares for, a) generating stations, b) transmission lines, and c) distribution centres.
- iii) Monthly reconciliation on value basis of individual stores' records with central records (weighted average method for valuation and perpetual inventory method for inventory accounting is generally followed. This seems to be working well for Andhra Pradesh and Tamil Nadu Boards).
- iv) Periodic physical verification - at least once in a year is a must.
- v) Control of wastage and appropriate precautions against leakage.
- vi) Separation of purchase organization from store keeping.
- vii) Clear-cut separation of constructions (capital work-in-progress) stores from O & M stores.

e) Accounts Receivable

- i) Separate determination of accounts receivable for a) power supply, b) electricity duty, c) accrued interest and dividend earnings, and d) other debtors.
- ii) Billing can be done once in three months for small consumers. It would save the billing costs.
- iii) Spot billing may be introduced.
- iv) Rationalise the tariff structure to simplify billing.
- v) Use of computers in billing would ensure accuracy, speed and economy.
- vi) Prepare an ageing schedule to monitor collection and reduce arrears.

f) Loans & Advances

For control purposes, loans and advances can be classified as follows :

- i) Loans to licensees.
- ii) Loans to staff - interest bearing  
- non-interest bearing.
- iii) Suppliers of stores for capital works-in-progress.
- iv) Suppliers of stores for O & M.
- v) Deposits with custom authorities, etc.
- vi) Advances to clearing agencies, etc.

g) Suspense Account

A large amount in suspense account shown in the annual reports is an unexplained and mysterious item to the financial analyst and statement users. Suspense account must be cleared and properly classified under appropriate heads at the time of closure of books. Anyhow, suspense amount on account of governmental transactions and for material (advances and bills not paid) should be separately reported.

h) Cash Management

- i) Cash budget showing details of receipts and payments should be prepared for each month. Excess cash should be productively invested. Facilities even for overnight lending must be availed of.
- ii) An appropriate level of cash balance to be held must be determined. Excess balance is non-productive and must be invested somewhere else for the time it would be available.
- iii) Collection must be properly controlled. Balance in local bank accounts must be automatically transferred to a centralised account for effective use of cash balance.

- iv) Internal checks and controls are necessary to regulate collection and disbursements.

Above are some of the areas wherein costs can be controlled and the performance and profitability of the Boards can be improved.

Last but not the least, let me emphasise again that no accounting system can work unless sufficient manpower is available with adequate training and experience for the job. Most of the Boards do not have the necessary facilities to train the staff. Consequently, the management is either ignorant of its need, or is unable to introduce it. A stage has been reached when the quality of financial management requires much greater attention than hitherto. The State Electricity Boards, like other public sector undertakings, need to look outside the governmental sector for financial and accounting expertise to improve upon the existing system.

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