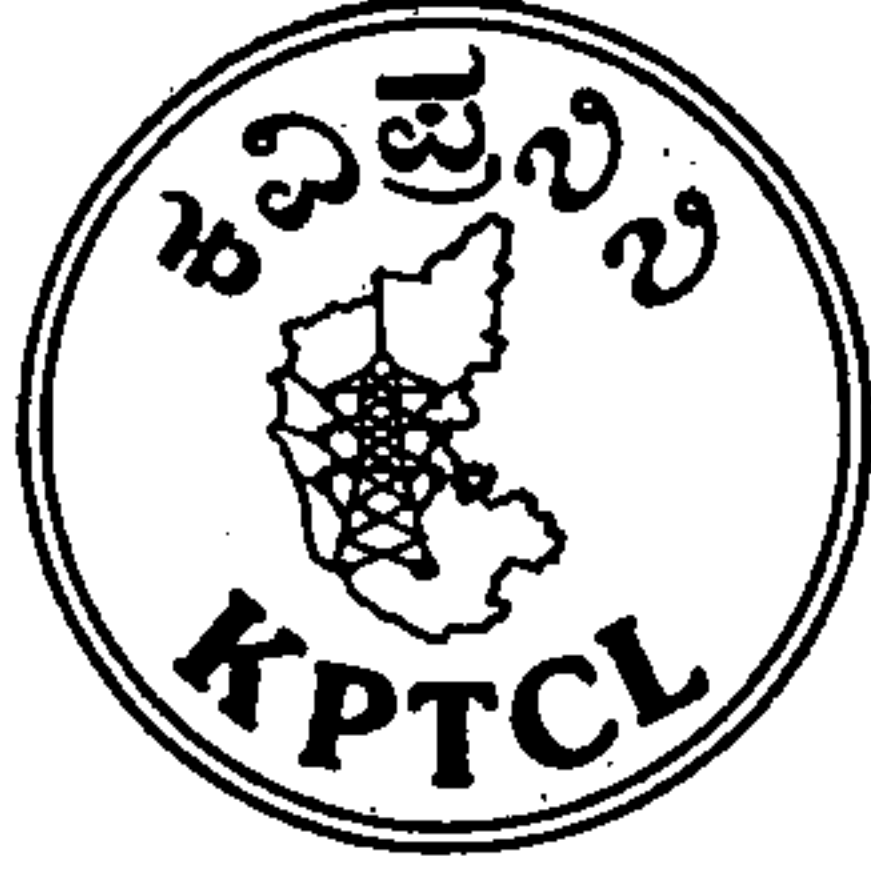


KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

**Presentation
Slides and
Study Material
on
Basic Concepts
of Finance & Accounts**

**Prepared & Compiled by :
O/o FA (A&R), KPTCL
March, 2006**

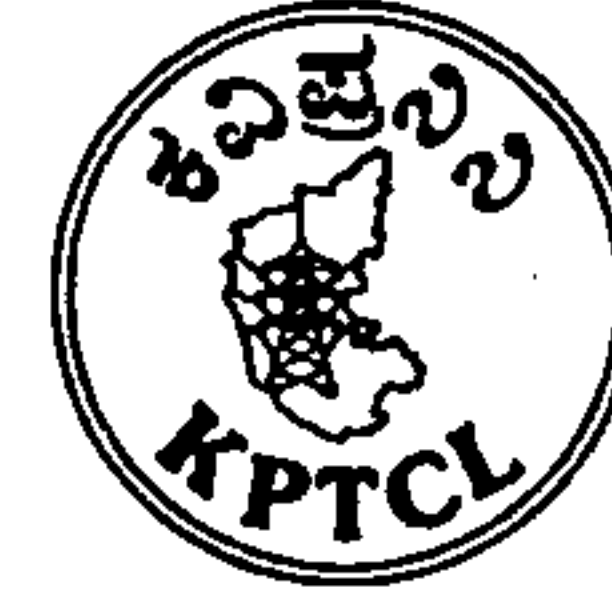


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March, 2006



**KARNATAKA POWER TRANSMISSION
CORPORATION LIMITED**
Kaveri Bhavan, Bangalore-9

A piece of Advice from MD, KPTCL and Chairman, ESCOMs

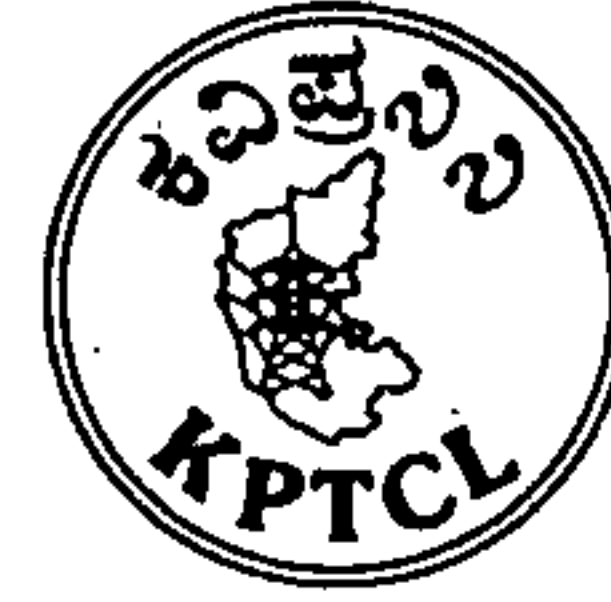
Learning is a continuous process and each individual should undergo this process both for survival and growth. The Power Sector, which is more complex than any other sector in the Economy, is undergoing radical changes. Unless the persons in the Sector adapt themselves to the changed scenario, the Sector will not be dynamic and will fall behind in the race. The Finance Officers right from AAO to FAs in the Organisation have to be in forefront in such transformation process

The Finance Team from KPTCL Corporate Office are conducting Workshop at field Offices to spread the message of change besides refreshing the concepts of finance and accounts to enable the Officers who have been deprived of opportunity to work in all areas of work. The Officers attending the Workshop may use this rare opportunity to enrich their knowledge bank and enhance their managerial skills and abilities. The Presentation and Study Material to be circulated may be kept as "Guidance Material" for improving their performance:

The KEB Accounts Officers Association should also involve in this endeavour and uplift the Officers' competence and confidence.

I wish the proposed Workshop a success by way of visible change in the functioning of Finance Officers of KPTCL and ESCOMs.

BHARAT LAL
MD, KPTCL & Chairman, ESCOMs.



**KARNATAKA POWER TRANSMISSION
CORPORATION LIMITED**
Kaveri Bhavan, Bangalore-9

Message from Director(Finance), KPTCL

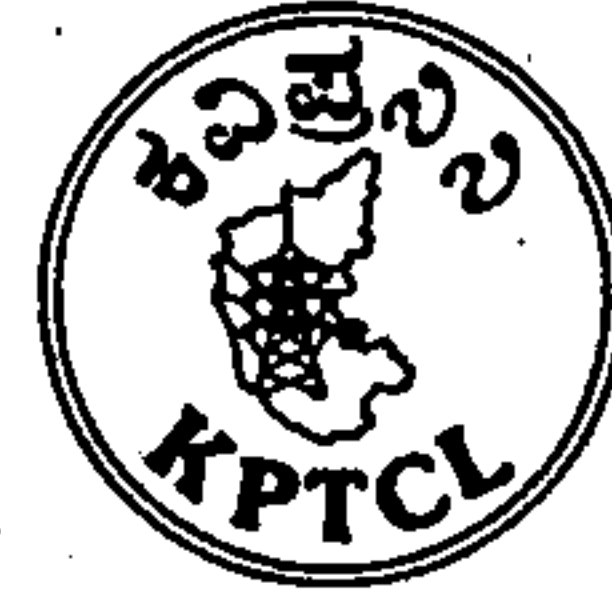
In the past, the Finance Officers in KPTCL/ESCOMs (erstwhile KEB) have met challenges of various types and came out successfully to the expectations of the Management. The involvement of our Officers when Commercial Accounting Principles were introduced, process of unbundling, adapting to regulatory framework, accepting EDP environment wholeheartedly, etc., can be construed as land mark achievements.

In the fast changing sector like Power Sector, expectations from Management is always high and there will be constant pressure and stress on the Officers to deliver the right output within least time. The work turned out by our Officers has always been subjected to test of efficiency and effectiveness.

At this juncture, a Workshop for our Officers in the field has been arranged by KPTCL and KEBAOA jointly. The literature made available through this Workshop may be too elementary for some Officers and entirely new concepts for others. So, taking tips from the material being presented, Workshop may be used as a platform for strengthening our core competency of analytical approach for handling any issues before us. The slides and study material being circulated would serve as a reference material for our Officers. Whatever may be support the Management or the Superior Officers give, it is ultimately up to each Officer to develop the managerial skills on his/her own by individual involvement.

I hope this Workshop will act as a catalyst to enrich the knowledge of our Officers to a greater extent.

ADITI RAJA
Director (Finance), KPTCL.



**KARNATAKA POWER TRANSMISSION
CORPORATION LIMITED**
Kaveri Bhavan, Bangalore-9

An APPEAL from FA(A&R), KPTCL and President, KEBAOA

After unbundling took place in the State in power sector, the employees who were put under maximum stress and strain are the Finance Officers in KPTCL and ESCOMs. Changes from multiple corners have hit Accounts wing and tested our capabilities to a greater extent. Though all of us have faced the challenges in the changed scenario and managing the show, some times our confidence is shaken due to entirely new issues and concepts thrown before us for understanding and responding to them within a short time. Often many of us have felt that some introspection and experience-sharing platform like meetings and workshops are needed to discuss such issues, which could not be held for obvious reasons.

Now a rare opportunity is created for the first time in our Organisation, KPTCL and KEBAOA have jointly convened Workshop at nine Zonal headquarters wherein the experience of some of us is being shared with our colleagues through a Power Point Presentation and Write-up material on certain issues and key areas. I hope the issues going to be deliberated at the Workshop would pave way for improving our strengths though no overnight miracles are expected.

Along with printed copies of slides and study material on certain issues, a CD is also being given to each Officer for keeping it as reference file for refreshing the same whenever necessary in future.

On behalf of KEBAOA I express gratefulness to the KPTCL Management for providing this opportunity of interacting with all our members with the sole objective of inculcating analytical approach in our work and facing the challenges with more confidence.

I request all our Members to involve themselves in this experience-sharing exercise actively. Any suggestions in this regard are always welcome. Besides I appeal to our Members to come forward for organizing such meetings at their places at convenient point of time to present / exchange good things done and learning new issues and concepts.

S. SRINIVASA NAIK
Financial Adviser (A&R), KPTCL
and President, KEBAOA.

Index

Slides	Page
Accounts	6-20
Finance	
Financial Management	24
Capital Budgeting Technique	25-31
Budgetary Control	32-35
Working Capital Management	36-39
Inventory Management	40-42
Financial Analysis Tools	44-50
Tariff and Regulatory Related Issues	53-87
Costing	89-104
Revenue	107-116
General	119-129
Basic Technical Issues	131-138
Auditing	141-151
Computer Related Issues	153-162
Key Financial Information relating to KPTCL, ESCOMs and Sector	
Sector	163-171
KPTCL - Financials	172-178
KPTCL-Budget	179-183
ESCOMs' Profile	185
Loan Details	186-188
Subsidy Status	189-192
How we earn and Spend (Sector)	193-199
Power Purchase Data	200-205
Energy Billing Centre (EBC) Issues	# 207

Study-Material	Page
Accounts	209-228
Finance	229-266
Tariff and Regulatory Related Issues	267-282
Costing	283-294
Revenue	295-297
Auditing	298-301
Special Terminologies	302-305

**Presentation
Slides
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March, 2006

Welcome to one and all

Presentation on certain

**Basic Concepts of Finance &
Accounts**

Organised by : KPTCL and KEBAOA

SELF INTROSPECTION

Before watching this Presentation put the following Questions to yourself and ponder over it :

- **Would I like to refresh my knowledge ?**
- **Would I like to enrich my knowledge bank?**
- **Whether I am working in a specific area for long time (which is monotonous also) and would like to know what is happening in other areas ?**
- **Whether I want to be a successful Finance Manager ?**
- **Would I want to participate in 'Experience Sharing' process?**
- **Would I like to know about key financial data of the Sector?**

If answer to above Questions is YES - Gear UP, here is a PPP which may fulfill the requirement to some extent !

Officer / Manager / Leader

Basic Qualities

- Involvement
- Understanding the issue
- Creativity and Vision
- Commitment
- Presentation skill
- Integrity, honesty and dedication

LEADERSHIP

As Supervisory Officer, each one has to be a LEADER instead of remaining simply as a MANAGER.

“Managers are people who do things right, while leaders are people who do the right thing” (Warren Bennis)

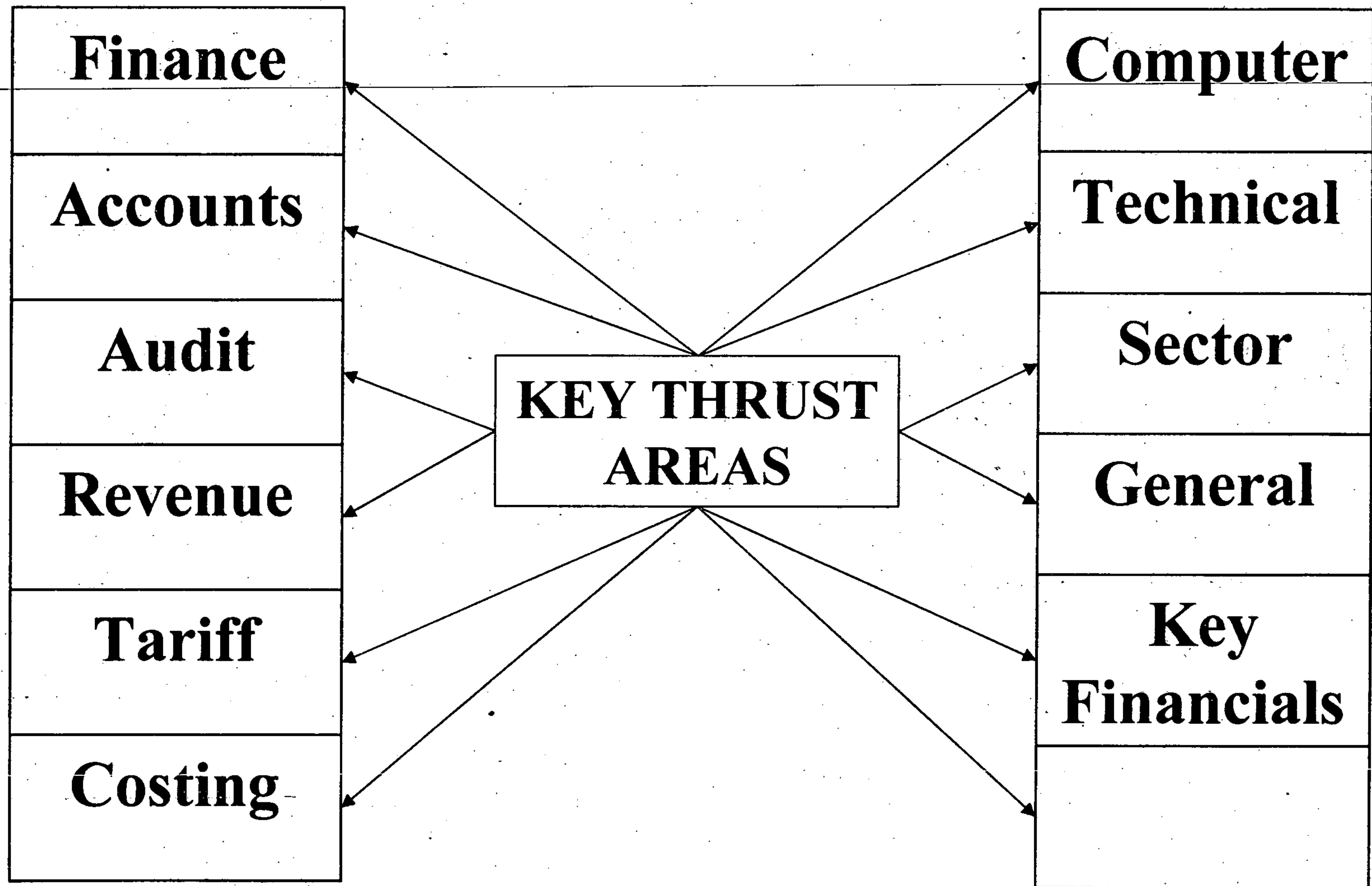
“A system cannot transform itself, it needs a leader” (W. Edwards Deming)

“Management works inside the system while Leadership works on the system”
(Stephen R Covey)

“Authority make you only a Boss and not the Leader”

“Leading is a process aimed at producing change to bring about a new reality”

KNOWLEDGE AREAS



ACCOUNTS

Golden Rules of Accounting

Types of Accounts :

Real Account, Personal Account and Nominal Account.

Rules for Debit or Credit :

– **Real Account – Debit what comes in and credit what goes out**

Personal Account – Debit the Receiver and credit the giver

Nominal Account – Debit all expenses (and losses) and credit all incomes (gains)

Accounting Principles

- **Business entity concept**
- **Historical cost convention**
- **Going concern concept** *Accrual concept*
- **Consistency concept**
- **True and Fair presentation**
- **No retrospective adjustments**
- **Offsetting of Assets and Liabilities**

Accounting Process in KPTCL / ESCOMs

Cash – Stock - Adjustments

- Stock and Adjustments thro' Journal Voucher – Journal Analysis
- Cash Book – Cash Analysis
- General Ledger
- Trial Balance
- P&L Account and Balance Sheet (with Schedules)

Annual Report

An Annual Report is presentation of the Company's performance during a period to the Shareholders.

Contents :

Chairman's Statement

Director's Report

Financial Statements

Comments of C&AG of India

Auditors' Certificate – Observations of Statutory Auditor and
Management Reply

Disclosures

Others

Corporate Governance, Directors' responsibility statement, Disclosure under the Companies rules 1988 (ie., Energy conservation, Technology absorption, Foreign Exchange earnings and outgo, etc.), Statement pursuant to Sec.212 – relating to Subsidiary, Management's discussion and analysis on industry and key issues, Committees of the Board, General Body meetings, etc.,

Financial Statements

Profit and Loss Account

(including Schedules to P&L Account)

Balance Sheet

(including Schedules to B / S)

Cash flow Statement

Trial Balance

- **It is a statement of ledger balances under various heads of account.**
- **All the Accounts can be classified under four heads viz., Assets, Liabilities, Income and Expenditure.**
- **All Assets and Expenditure heads of account show Debit balance.**
- **All Liabilities and Income heads of account show Credit balance.**

Contd.,

Trial Balance

- As per the Chart of Accounts being used in KPTCL (more or less same at ESCOMs also) the classification is as shown below :

- **Assets Debit Head 10 to 37**

(except 12 series and certain heads of account)

- **Liabilities Credit Head 12 and 41 to 58**

- **Income Credit Head 61 to 65**

- **Expenditure Debit Head 70 to 83**

(except credit head of account meant for capitalisation)

Balance Sheet

- **Assets and Liabilities of a Company are depicted here.**
- **It depicts the financial position of the Company as at the end of a period. The figures shown in Balance Sheet are cumulative since the inception of the Company.**
- **There are 17 Schedules to the Balance Sheet giving detailed information for each item of Asset or Liability (No. of schedules may vary depending on depiction).**
- **Assets broadly include Fixed Assets, Investments, Current Assets and Deferred Revenue Expenditure.**

Contd.,

Balance Sheet

- **Under Liabilities the items of Equity Capital (Share Capital or share Deposit), Reserves and Surplus, Loans (Secured and Unsecured), Service Line and Security Deposits from Consumers are shown.**
- **Current Assets include Inventories, Sundry Debtors (Receivables), Cash and Bank Balances, Loans and Advances and Other Assets.**
- **Current Liabilities include Power Purchase Liabilities, Security Deposit from Contractors/Suppliers, Bills payable and Provisions.**

Profit and Loss Account

- **Income and Expenditure of a Company during a specified period are depicted here.**
- **P&L Account indicates the financial performance of the Company during the said period.**
- **In KPTCL and ESCOMs, the Revenue from Transmission / Sale of power, Non-Tariff Income and Subsidies if any are included under Income. The Expenditure includes Power Purchase Cost, Employee Costs, R&M Expenses, A&G Expenses, Interest, Depreciation and Other Revenue Expenses.**
- **The difference between the Income and Expenditure may be either Profit or Loss. This is normally referred to 'Bottom Line' of the Company's P&L Account.**
- **For each item of Income and Expenditure further break-up details are disclosed in separate Schedules. At present 16 schedules are there. (which may vary depending on the extent of disclosure).**

Cash Flow Statement

- While the P&L Account is based on 'Accrual' basis of reckoning Income and Expenditure items, in Cash flow statement the income actually received in cash and expenses actually paid in cash are considered.
- CFS is very vital in a situation where there is significant variation in Income and Expenditure figures between accrued and cash basis.
- Depreciation being 'non-cash' item of expenditure is excluded from expenditure outgo in Cash flow statement. Similar is the treatment for Net profit (ROR/ROE) which remain with the Company. The sum of these two items along with any other Receipts which have not figured in P&L account (like Deposits from consumers, Augmentation charges, capital receipts / grants received in cash, etc.,) constitute 'Internal Resources' of the Company.
- After considering the 'Debt Repayment' (only principal amount) amount, the residual amount out of Internal Resources if any, would be available for meeting Capital Expenditure.

Some Accounting Terminologies

Net Worth : The net worth of an enterprise represents the excess of book value of all assets over the outside liabilities. It represents the interest of the shareholders in the enterprise. It is normally equivalent to the net equity ie., Share capital plus Reserves plus Retained profits less Unabsorbed losses or Expenses.

Earnings Per Share : The profit attributable to each share based on the consolidated profit of the period after tax.

Contingent Liability : Liabilities which are dependent on a condition which exists at the balance sheet date, where the outcome will be confirmed only on the occurrence or non-occurrence of one or more uncertain future events.

Generally Accepted Accounting Principles (GAAP) : Many countries have got their own GAPP. These are ground rules covering financial accounting, prescribed by Financial Accounting Standard Board, USA, that attempt to strike a balance between the criterion of relevance on one hand and the criteria of objectivity and feasibility on the other.

Secured / Unsecured Loans : Liability 'secured' on asset with lender having legal right to proceeds from sale of that asset on liquidation, up to the amount of the liability. Liability without any such security is 'Unsecured' Loan.

Accounting Standards

- **AS 1 – Disclosure of Accounting Policies**
- **AS 2 – Valuation of Inventories**
- **AS 3 – Cash Flow Statements**
- **AS 4 – Contingencies and Events occurring after the Balance Sheet date**
- **AS 5 – Net profit or loss for the period, prior period items and changes in Accounting policies.**
- **AS 6 – Depreciation Accounting**
- **AS 7 – Accounting for Construction contracts**
- **AS 8 – Accounting for Research and Development**
- **AS 9 – Revenue Recognition**
- **AS 10 – Accounting for Fixed Assets**

Accounting Standards

- **AS 11 – Accounting for the Effects of changes Foreign Exchange rates**
- **AS 12 – Accounting for Government Grants**
- **AS 13 – Accounting for investments**
- **AS 14 – Accounting for Amalgamations**
- **AS 15 – Accounting for Retirement benefits in the Financial Statements of Employees**
- **AS 16 – Borrowing Costs**
- **AS 17 – Segment Reporting**
- **AS 18 – Related Party Disclosure**
- **AS 19 – Leases**
- **AS 20 – Earnings per Share**

Accounting Standards

- AS 21 – Consolidated Financial Statements
- AS 22 – Accounting for taxes on income
- AS 23 – Accounting for Investments in Associates in Consolidated Financial Statements
- AS 24 – Discontinuing Operations
- AS 25 – Interim Financial Reporting
- AS 26 – Intangible Assets
- AS 27 – Financial Reporting of Interests in Joint Ventures
- AS 28 – Impairment of Assets
- AS 29 – Provisions, Contingent Liabilities and Contingent Assets

Successful Manger (Leader)

You must realise there are challenges. Look at each as a stepping stone to success.

Be adaptable. That is very important.

Innovativeness and creative thinking are paramount.

Use a lot of empathy.

FINANCE

Financial Management

- **Capital Budgeting Techniques**
- **Budgetary Control – Capital & Revenue**
- **Working Capital Management**
- **Inventory Management**
- **Financial Analysis Tools**

Capital Budgeting Techniques

Capital Budgeting Techniques

- **Payback Period**
- **Discounted Cash flow Techniques**
 - **Net Present Value (NPV)**
 - **Internal Rate of Return (IRR)**
 - **Benefit-cost Ratio (BCR)**

PAY BACK PERIOD

$$\text{PBP} = \frac{\text{Original Investments}}{\text{Annual Cash-inflows}}$$

Example :

Original Investments Rs.2,80,000

Average Annual cash-inflow

(savings after tax but before depreciation) Rs. 80,000

$$\begin{aligned} &= \frac{280000}{80000} \\ &= 3.5 \text{ Years} \end{aligned}$$

NET PRESENT VALUE

Example :

Year	Project A	Project B			
Initial Investment	Rs.50000	Rs.50000			
Cash-inflow 1 st Year	Rs.15000	Rs.5000			
2 nd Year	Rs.20000	Rs.15000			
3 rd Year	Rs.25000	Rs.20000			
4 th Year	Rs.15000	Rs.30000			
5 th Year	Rs.10000	Rs.20000			
Total Inflow	Rs.85000	Rs.90000			

Evaluation of Projects without using NPV method :

Project A : $Rs.85000 - Rs.50000 = Rs.35000$

Project B : $Rs.90000 - Rs.50000 = Rs.40000$

As the Net Cash Inflow is more in respect of Project B than Project A, Project B is preferred and considered as financially viable.

NET PRESENT VALUE

Example :

Year	Project A	Project B	Discount Factor at 10%	Project A PV	Project B PV
Initial Investment	Rs.50000	Rs.50000			
Cash-inflow 1 st Year	Rs.15000	Rs.5000	0.909	Rs.13635	Rs. 4545
2 nd Year	Rs.20000	Rs.15000	0.826	Rs.16520	Rs.12390
3 rd Year	Rs.25000	Rs.20000	0.751	Rs.18775	Rs.15020
4 th Year	Rs.15000	Rs.30000	0.683	Rs.10245	Rs.20490
5 th Year	Rs.10000	Rs.20000	0.620	Rs. 6210	Rs.12420
Total Inflow	Rs.85000	Rs.90000		Rs.65385	Rs.64865

Evaluation using Net Present Value :

Project A : $Rs.65385 - Rs.50000 = Rs.15385$

Project B : $Rs.64865 - Rs.50000 = Rs.14865$

Based on NPV, Project A is preferred than Project B as the NPV of future Cash flows is more in 'A' than that of Project B

Internal Rate of Return (IRR)

Procedure / Method of calculation :

- First determine the NPV using some assumed Discount factor.
- By trial and error method change the discount factor rate and rework the NPV until the Original investment equate the Present Value.
- The rate at which the Investment equates the Present Value is the IRR of the project.
- The IRR is compared to the cost of capital and the project having higher difference is preferred to the other projects.

Benefit to Cost Ratio

(BCR or Profitability Index method)

$$\text{BCR} = \frac{\text{NPV of future Cash inflows}}{\text{Investments}}$$

Example :

Original Investments Rs.5000

~~NPV~~ of future cash inflows Rs.5860
8000

$$= \frac{5860}{5000} = 1.17$$

Higher the BCR, the more desirable is the investment.



Budgetary Control

Budgetary Control

- ❖ **Capital Budget and Revenue Budget**
- ❖ **Revenue Budget –**
 - **Constituents – Power Purchase Cost, Employee Costs, R&M Expenditure, A&G Expenses, Interest and Other Expenses.**
 - **Importance of KERC Tariff Order – KERC Order de facto Revenue Budget.**
- ❖ **Capital Budget or Project Monitoring process :**
 - **Necessity of taking up future projects**
 - **Evaluation of proposed Capital Program**
 - **Sourcing of proposed capital works**
 - **Execution of Works**
 - **Monitoring of Works**
 - **Post Project Appraisal**

{ Refer Corporate Circular No. FA(A&R) / 563 dated 2.11.2004 from MD, KPTCL }

Budgetary Control

Types of Budget :

- **Incremental Budgeting**
- **Zero Based Budgeting (ZBB)**
- **Rolling Budget**
- **Flexible Budget**
- **Monthly, Quarterly, Yearly**

Capital Budget in KPTCL

- ❖ Based on the DPRs prepared by the field Offices and Corporate Office, the size of the capital budget is estimated at the first instance.
- ❖ After necessary approval from TAC (Technical Advisory Committee), TCCM (Technical Coordination Committee) or Board, a list of 'Annual Program or Works' (APW) is prepared and circulated among all Offices.
- ❖ Major Capital Works has been classified into five lists viz.,
 - List 1 – Comprises of commissioned works and the budget provided for completion of balance works, payment of pending bills.
 - List 2 – Comprises of all on going works which are proposed to be commissioned during current financial year.
 - List 3 – Comprises ongoing and new works proposed to be taken up and likely to spill over to the next financial year.
 - List 4 – Contains works of augmentation and other improvement works.
 - List 5 – Contains new stations and associated transmission lines, which are already approved in the TCCM / perspective plan.
- ❖ In the capital budget program itself the source of funding the various works is also indicated.
- ❖ Normally for taking up any work for execution, the inclusion of the same in APW is a pre-requisite.

Working Capital Management

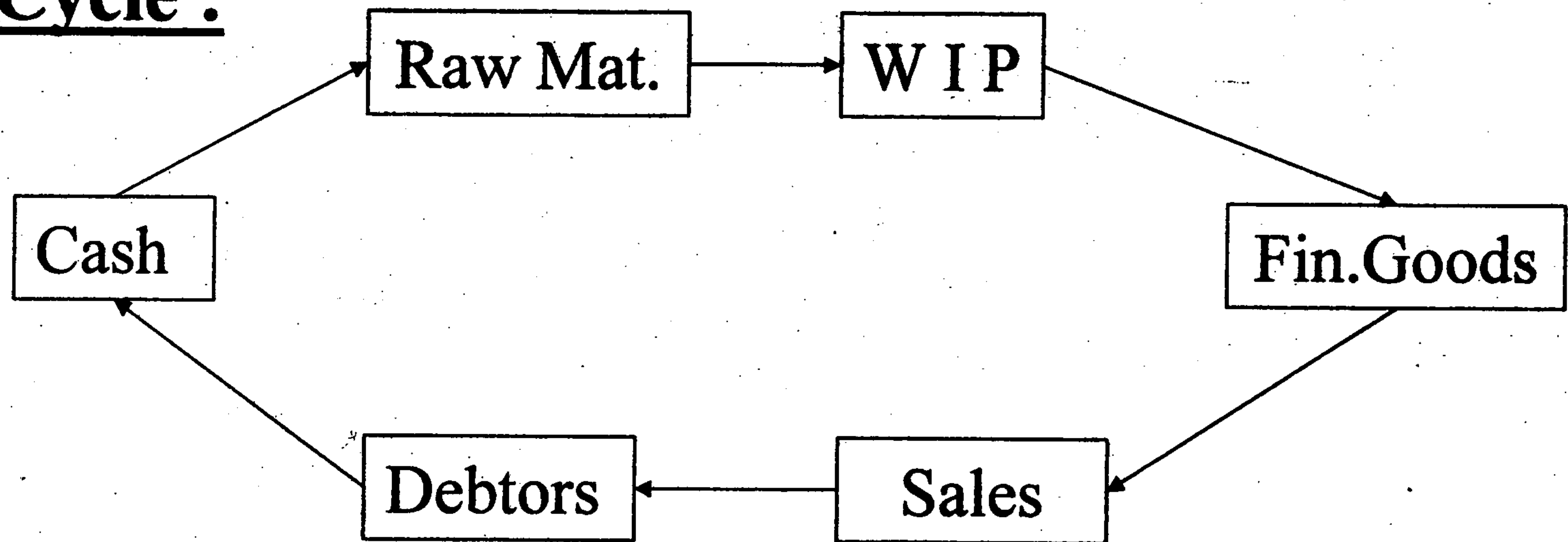
Working Capital Management

Working Capital

Difference between Current Assets and Current Liabilities.

OR Sum of Current Assets

Cash Cycle :



In Power Sector :

**Cash, Fuel Purchase, Generation, Transmission,
Distribution, Sale, Debtors**

Working Capital Management

Factors considered for determining Working Capital:

Nature of business

Production Process

Terms of Purchase

Time lag between events

Credit policies (procurement & sales)

Requirement of cash

Sources of Working Capital :

Bank Credit

Deposits

Security Deposit from Employees, Contractors, Suppliers, etc.,

Methods of working out Working Capital Requirement:

Cash Forecasting Method

Balance Sheet Method

Percentage of sales.

CERC Norms

(click here)

CERC Norms for Interest on Working Capital

{As per CERC (Terms and Conditions of Tariff) Regulations, 2004 effective from 1.4.2004}

Working Capital shall cover :

Coal based / Lignite-fired generating stations :

- o Cost of coal or lignite for ^{head} ~~11~~^{1 1/2} months (pit-head stations) and 2 months for non-pit-head stations.
- o Cost of secondary fuel oil for 2 months.
- o O&M Expenses for one month
- o Maintenance spares @ 1% of the historical cost escalated at 6% p.a.
- o Receivables equivalent to 2 months of Fixed and Variable charges.
- o Rate of Interest on working capital shall be on normative basis and shall be equal to the short term PLR (Prime Lending Rate) of SBI as on 1.4.2004 on 1st April of year in which the generating station or a unit is declared under commercial operation, whichever is later.

Note : Provisions differ for other generating stations

[Back to Main Presentation \(click here\)](#)

Inventory Management

Inventory Management

- **Quantitative Management**

Purchase, Production and Store Departments, Numerical Ledger, Physical Inventory (store counting), etc.,

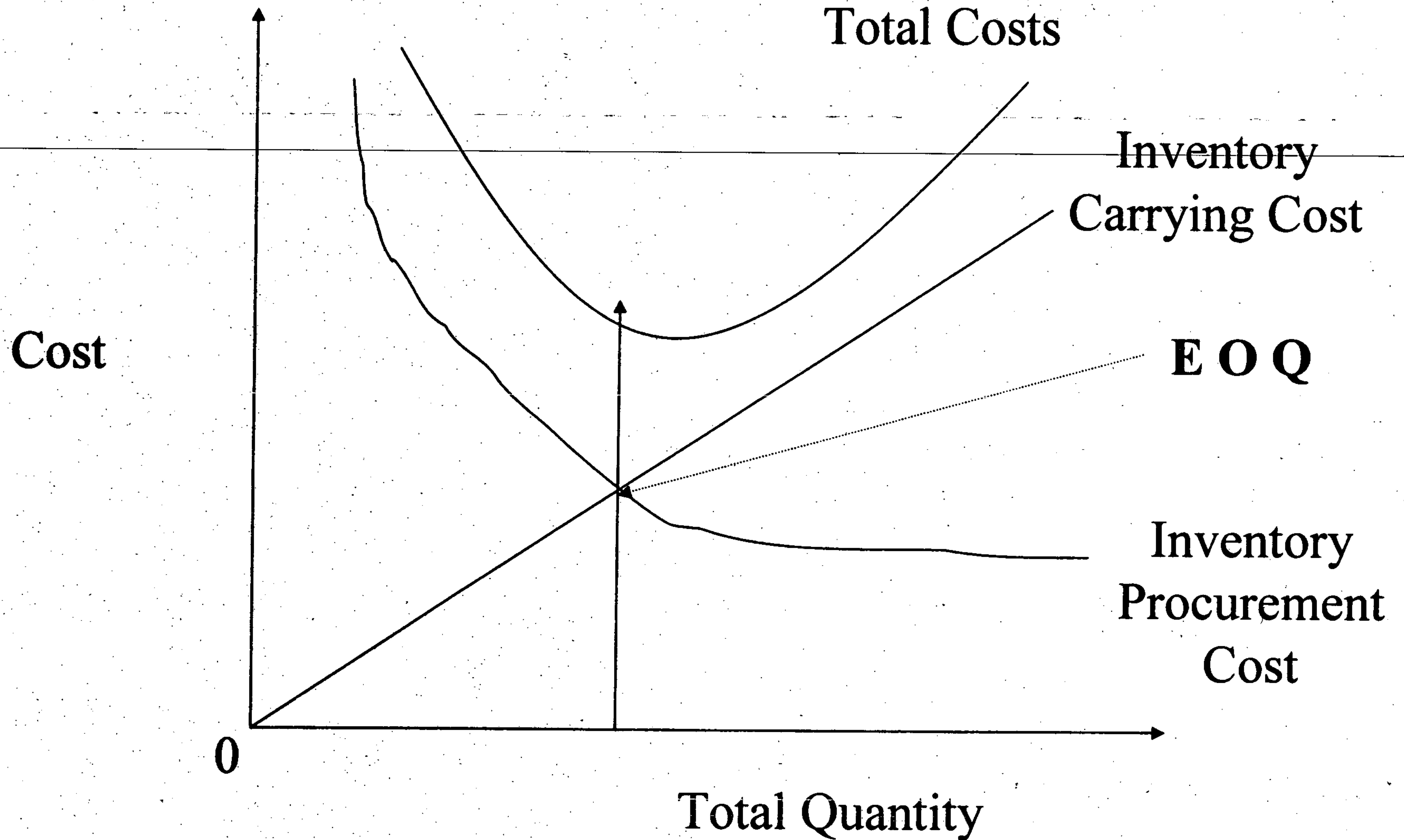
- **Value Control**

Accounts, Budget, Bills and Stores Department, Pricing Ledger, Accounting of Excess / Shortage, etc.,

Key concepts in Inventory Management:

- **Stock Levels – Minimum, Maximum, Re-order, Danger Levels**
- **Time Lag - Lead Time, Procurement Cost, Cost of Carrying**
- **A B C Analysis**
- **EOQ -Economic Ordering Quantity**
- **Valuation of issues – FIFO, LIFO, Wt. Avg. Rate, Standard Rate, Market Price.**

Economic Ordering Quantity (EOQ)



Goals

*Goals are not only absolutely
necessary to motivate us. They are
essential to really keep us alive.*

(Robert H. Schuller)

Financial Analysis Tools

Financial Analysis Tools

- o Comparative Financial and Operating Statements**
- o Ratio Analysis**
- o Funds-flow and Cash-flow statements**
- o Trend Analysis**
- o Average Analysis**

Ratio Analysis

o **Based on Financial Statement :**

- o **Balance Sheet Ratios**
- o **Profit and Loss Account Ratios**
- o **Composite Ratios**

o **Functional Classification :**

- o **Liquidity Ratios**
- o **Debt Ratios**
- o **Profit Ratios**
- o **Coverage Ratios**

Ratio Analysis

Important Ratios :

o Debt : Equity Ratio :

- Indicates the components of borrowed amount and owners funds in the total capital. Computed by dividing total debt by the net worth. Gives an idea of the creditworthiness and financial risk of the firm. Recommended Ratio is 1 : 1.

o Current Ratio :

- Represents the ratio of current assets to current liabilities. Satisfactory ratio is 2 : 1. Measures whether current assets are sufficient to meet current liabilities.

Ratio Analysis

o **Liquidity (or Acid Test) Ratio :**

- **Ratio for testing financial liquidity ie., placing emphasis on immediate conversion of assets into cash. A ratio of 1 : 1 is considered good. Computed by dividing current assets excluding inventory by current liabilities.**

o **Earning Per Share (EPS) :**

- **Computed by dividing earnings available to Equity Shareholders (or PAT) by number of equity shares outstanding. High EPS are preferred.**

Debt Service Coverage Ratio (DSCR)

DSCR indicates the amount of cash flow available to meet annual interest and principal repayment on debt

$$\text{DSCR} = \frac{\text{EBIT}}{\text{Interest} + \text{Principal Repayment} \{1/(1-t)\}}$$

Where : EBIT = Earnings before Interest and Tax
't' represents the corporate tax rate

Lower the ratio higher will be risk of debt servicing. This ratio should ideally be over One.

Fund / Cash Flow Statements

■ Fund flow statement –

- Method to study the net funds flow between two points of time.
- Sources and application of funds to determine the financial condition of the Company.

■ Cash flow statement –

- Statement showing movement of cash 'in' and 'out' of a business.

■ Difference –

- CFS limits to only cash items whereas FFS include other items also.
- CFS only shows receipt and disbursement of cash whereas in FFS the net effect of such receipt and disbursement are recorded.

Cash flow statement format :

- Net Profit
- Add : Depreciation, Increase in payables,
- Less : Increase in investments, Increase in receivables,
- Arrive at pre-interest cash flows
- Consider interest and arrive at post interest cash flows (which is considered for working out DSCR)

Awareness

We must learn to reawaken and keep ourselves awake, not by mechanical aid, but by an infinite expectation of the dawn

(Henry David Thoreau)

TARIFF

RELATED ISSUES

TARIFF

Tariff literally means 'tax to be paid'.

As per Karnataka Electricity Reforms Act, 1999

“Tariff” means a schedule of standard prices or charges for specified services which are applicable to all such specified services provided to the type of customer specified in the tariff published.

Key considerations in Tariff determination

Tariffs shall send producers and customers the right signals and at the same time cover the cost of generation, transmission and distribution of electricity

Economic Environment

- Demand, Supply and prices in an economy.**

Productive efficiency

- Cost related**

Operational

- Efficiency**

Process

- Who sets prices and how they are determined.**

Quality of Supply

Costs and its characteristics

What is cost ?

Cost is the outflow required to supply one unit of energy.

$$\text{Price} = \text{Cost} + \text{Profit.}$$

What does cost of electricity include ?

Generation Cost	Variable
Operation and maintenance cost	Fixed
Employee costs	Fixed
Administrative costs	Fixed
Interest cost	Fixed
Depreciation	Fixed

{ Transmission and Distribution Costs are included in above Fixed Cost elements }

Profit included in Price at present is 14% on Equity (i.e., ROE)

Return on equity

Regulatory intervention

Pre-regulatory scenario ;

Monopoly business	Lack of focus on quality
Inefficiency built into tariff	High T&D Loses
No Transparency	No consumer participation
Inefficient use of capital	Unproductive Expenses

Intervention of Regulator to :

Control Costs	Include Consumer participation
Limit Profits	Maintain Quality of supply important
Transparent process	Adhere to Efficiency parameters fixed

Transparency and Consumer awareness

- **Tariff setting processes are no longer closed door exercise**
- **Information uncovers hidden inefficiencies**
- **Changed approach :**
 - **Concept papers**
 - **Public Hearings**
 - **Availability of all related data**
 - **Detailed tariff orders**
 - **Enables comparison with similar services**
 - **Competition**
 - **Investment needs**
 - **Technological advances**
 - **Increased consumer awareness**
 - **Linkage to quality of supply**

Changed Business Environment

- **Reforms and Restructuring**
- **Legal environment**
- **State Reforms Acts (KERA, 1999)**
- **SERC Regulations (KERC regulations)**
- **The Electricity Act, 2003**
- **CERC Regulations**
- **The Companies Act, 1956**

Karnataka Electricity Reforms Act, 1999

Provisions of Section 27 - Tariffs

- **Licensee to observe the methodologies & procedures in calculating ERC.**
- **Commission to lay down methodology and the terms and conditions for determination of revenue and tariffs.**
- **Commission shall be guided by the following factors :**
 - **financial principles provided in Sec.46, 57 and 57-A of the El. (Supply) Act, 1948.**
 - **Section 59 of the El. (Supply) Act, 1948**
 - **factors which would encourage efficiency, economical use of resources.**
 - **safeguard the interest of consumers and payment for use of electricity in a reasonable manner (ACPS)**
 - **the electricity generation, transmission, distribution and supply are conducted on commercial principles.**

Karnataka Electricity Reforms Act, 1999

- Tariff under this Act (a) shall not show undue preference to any consumer but may differentiate (b) shall be just and reasonable to promote economic efficiency (c) satisfy provisions of the Act, regulations & conditions of license.**
- Fix tariff in such a manner that similarly placed consumers in different areas pay similar tariff.**
- No tariff or part of any tariff implemented may be amended more than once in any financial year except fuel surcharge.**
- licensee shall not amend any tariff unless approved by the Commission.**

The Electricity Act, 2003

Objectives

- **Taking Measures conducive to development of El., industry**
- **Promoting competition**
- **Protecting consumers' interests**
- **Rationalization of Tariff**
- **Ensuring transparent subsidy policies**
- **Supply electricity to all areas**
- **Encourage environmentally benign policies**

The Electricity Act, 2003 - Contents

PART	CHAPTER	SECTIONS	
		From	To
I	Preliminary	1	2
II	National Electricity Policy and Plan	3	6
III	Generation of Electricity	7	11
IV	Licensing	12	24
V	Transmission of Electricity	25	41
VI	Distribution of Electricity	42	60
VII	Tariff	61	66
VIII	Works	67	69
IX	Central Electricity Authority	70	75
X	Regulatory Commissions	76	109
XI	Appellate Tribunal for Electricity	110	125
XII	Investigation and Enforcement	126	130
XIII	Reorganisation of Board	131	134
XIV	Offences and Penalties	135	152
XV	Special Courts	153	157
XVI	Dispute Resolution	158	
XVII	Other Provision	159	165
XVIII	Miscellaneous	166	185

Main Features of the Electricity Act, 2003

- Generation delicensed – Thermal Stations, Large Hydel projects
- Captive generation – no permission, group/society, off-site
- Private participation – can build Tr.Lines for captive/common use
- Open Access – use of Tr/Dist.lines by licensee, gen.co., consumer
- Transmission – CTU at central, STU at State level
- Distribution – generation & vice-versa, multiple licenses.
- Tariff – comml., principles, MYT, ToD, Competition., subsidies
- Stand Alone System – rural/remote areas, GPs..
- Trading – recognised as an activity, license, tr. margin
- Unbundling – SEBs unbundling and create cos., at least tr...
- Theft – Strict provisions to deal with power theft
- Tribunal – for disposal of appeals against CERC / SERC..
- Competition – Open access, consumer vs gen. Co., or trader..

Provisions relating to Tariff in the Act

As per Part VII : Appropriate Commission specify terms and conditions :

- CERC Norms
- Commercial Principles
- Competition, efficiency and economic use
- Consumers and Licensee
- Rewarding efficiency
- MYT principles
- Cost reflective
- Co-generation
- NEP / TP

Determination of Tariff for :

- Supply from Gen. To Dist. Licensee
- Transmission
- Wheeling
- Retail Sale

Contd.,

Provisions relating to Tariff in the Act

- **Separate details for generation, transmission and distribution**
- **No undue preference but may differentiate**
- **Amendment**
- **Calculating ERC**
- **Bidding process**
- **Procedure for tariff order**
- **Subsidy issues**
- **Development of market**

TARIFF POLICY

{Notified by GoI vide Resolution No.23/2/2005-R&R(Vol.III) dated 6th January, 2006}

Highlights :

- **General Approach to Tariff - (ROI, Equity norms, Depreciation, Cost of Debt, Forex risk, Operating norms, MYT, CDM),**
- **Generation – Procurement of power, Tariff structuring, Captive generation, NCE projects.**
- **Transmission – Pricing, loss allocation, other issues.**
- **Distribution – MYT, Revenue requirement and costs, Tariff Design ie., linkage to CoS, Two part tariff, Cross subsidy surcharge, Trading Margin, etc.,.**

Facets of Tariff / Cost

- **Embedded Costs**
- **Marginal Cost**
- **Avoided Costs**
- **Sunk Costs**
- **Opportunity Costs**
- **Demand Costs**
- **Energy Costs**
- **Customer service costs**

- **Generation Tariff**
- **Transmission Tariff**
- **Bulk Supply Tariff (BST)**
- **Uniform BST**
- **Differential BST**
- **Single Part Tariff**
- **Two part Tariff**
- **Retail Tariff**
- **Time of use Tariff**
- **U I Charges**

Pricing (Tariff) Principles

- **In a competitive market prices are determined by demand-supply equilibrium**
- **Profits are resultant**
- **Promote economic efficiency**
- **Non discriminatory tariff structure**
- **Easy to understand and implement**
- **Avoid Tariff shocks**
- **Gradual reduction of cross-subsidies**

Salient Features of the KERC (Tariff) Regulations, 2000

- Informing licensees of the basic minimum data and information requirements for seeking the Commission's approval to the ERC and for any proposal for modifications of the tariffs.**
- Provide standardized formats in which such information is to be provided.**
- Specifying the procedure by which the Commission would take up the ERC filing and Tariff filings for consideration before according approval thereto.**
- Ensuring greatest possible transparency in such procedure and the fullest possible opportunity for all concerned to participate in such a process.**

Methods of Tariff Determination

1. Rate of Return (RoR) Regulation : All costs incurred by Utility together with a reasonable return on its investments are allowed to be passed through to consumer by means of Tariff.
2. Performance Based Regulation (PBR) : A system of regulation where the tariff that can be charged is linked to some performance standards. Utility gets higher return than normal if it can improve its performance beyond the standards and vice-versa.
3. Multi-Year-Tariff (MYE) : Tariff setting methodology providing future tariff determination according to set formula. It provides greater certainty regarding cash flows.

ERC and Tariff Filing Process

- ERC and Tariff filing should be in accordance with KEREC (Tariff) Regulations, 2000.
- Not later than 4 months before the commencement of any financial year, every licensee shall provide to the Commission full details of its ERC calculations for the ensuing financial year i.e., before November 30th of the current year.
- While preparing the tariff proposal the licensee will have to provide information in the formats prescribed by the Commission
- Commission seeks clarifications to which the licensee responds.

Contd.,

ERC and Tariff Filing Process

- The Commission accepts the proposal and treats it as a petition after it is satisfied that the application is complete in all respects and publishes it in daily newspaper and invites objections.**
- The objections, duly notarized, is received by the Commission. The Commission after checking its validity forwards it to the licensee.**
- The licensee has the chance and option of defending its stand.**
- The Commission calls for a hearing.**
- the Commission delivers its judgement (within 120 days of accepting the tariff application).**

Determination of Revenue Requirement

- The framework for setting electricity prices is governed by the Annual Revenue Requirement. This method sets the total allowed revenues of the utility in a specified manner.
- Revenue Requirement = (Rate Base X Rate of Return) + Depreciation + O&M Expenses + Other Expenses + Tax - Other Income.
Power Purchase cost + Employee cost
- The KERC is following the above concept along with certain performance benchmarks like allowed loss levels, additional sales to metered category, cap on O&M costs, etc.,

Power Purchase cost + Employee cost
↑

Step by Step ERC Preparation

- **Demand Estimation (Sales)**
- **T&D Loss reduction**
- **Power Purchase availability and requirement**
- **Operating Costs : Employee Costs, R&M Expenses, A&G Expenses, Depreciation, Interest and Finance Charges, Other Expenses, Return, Other Income**
- **Revenue at existing Tariff rates**
- **Average Cost of Power Supply vs Average Realisation Rate**
- **GoK Policy, Tariff path, Other factors.**

Forms for filing ERC

Sl. No.	Item	Transmission Form No.	Distribution Form No.
1	Profit and Loss Account	A1	
2	Balance Sheet	A2	
3	Cash flow Statement	A3	
4	Aggregate Revenue Requirement	A4	
5	Cost of purchased power	T1	D1
6	Revenue from sale of power	T2	D2
7	Revenue from subsidies and grants	T3	D3
8	Non-tariff income	T4	D4
9	Repairs and Maintenance Costs	T5	D5
10	Employee Costs	T6	D6
11	Employee Costs – Additional information	T6A	D6A
12	Administration and General Expenses	T7	D7
13	Depreciation	T8	D8
14	Loans and Debentures and interest charges	T9	D9

Forms for filing ERC

Sl. No.	Item	Transmission Form No.	Distribution Form No.
15	Sale and Leaseback of Assets	T9A	D9A
16	Details of expenses capitalised	T10	D10
17	Other Debits	T11	D11
18	Extraordinary items	T12	D12
19	Net prior period credits (charges)	T13	D13
20	Contributions, Grants & subsidies towards cost of capital assets	T15	D14
21	Gross Fixed Assets	T15	D15
22	Net Fixed Assets	T16	D16
23	Work in progress (capital expenditure)	T17	D17
24	Receivables against sale of power (DCB)	T18	D18
25	Tariff category wise DCB	-	D18A
26	Energy flow diagram for T&D System	T19	D19
27	Commercial losses identified and assessed	T19A	D19A

Bulk Supply Tariff (BST) and TC (Transmission Charges)

Bulk Supply Tariff (BST) :

Rate at which the Power purchase cost and related costs are passed on to licensees to whom bulk energy is supplied by Transco. This is calculated by dividing {Power purchase cost + LDC Expenses + Interest on PP dues } by Net Bulk Energy Supply.

Transmission Charges (TC) :

Rate at which the net Transmission Expenses of Transco are recovered from licensees to whom bulk energy is supplied. This is calculated by dividing {Total Transmission Expenses including ROR, after capitalisation minus Non-Tariff Income } by Net Bulk Energy Supply.

KERC Tariff Order 2005 - Highlights

- **No tariff revision is there; but tariff rationalisation has been made.**
- **Slightly different tariff fixed for areas coming under specified urban areas and VPs.**
- **Energy Purchase of 35324 MU as projected in ERC approved by KERC.**
- **PP Cost approved at Rs.6657 Crs. as against Rs.6888 Crs. Estimated (mainly due to more hydel availability)**
- **Total T&D Loss fixed at 25.93 % as against 27.90 % projected by KPTCL and ESCOMs.**

Contd.,

KERC Tariff Order 2005 - Highlights

- **Additional Sales of 1259 MUs considered due to loss reduction target fixed.**
- **Transmission Rate per unit fixed at 19.42 Paise.**
- **The impact of revenue due to rationalisation of tariff is not ascertainable for want of various data.**
- **Return on Equity (ROE) allowed at 12% for KPTCL and ESCOMs.**
- **No flat rate tariff exists (for the reason that the Electricity Act, 2003 doesn't provide for supplying power without meter).**
- **Uniform Tariff fixed for all ESCOMs even though KERC discussed the differential tariff among ESCOMs during validation process.**

Regulations issued by KERC

1. KERC (General and Conduct of Proceedings) Regulations 2000.
2. KERC (Recruitment and Conditions of Service) Regulations 2000.
3. KERC (Licensing) Regulations 2000.
4. KERC (Tariff) Regulations 2000.
5. KERC (Electricity Supply & Distribution) Regulations 2001.
6. KERC (Conduct of Meetings) Regulations 2000.
7. KERC (Consumer's Right to Information) Regulations 2000.
8. KERC (Accounting) Regulations 2000.
9. KERC Practice Directions on Consumers Grievance Handling Procedure.
10. Guidelines for preparation of Load Forecast, Power Procurement Plan and Power Procurement Procedure.
11. KERC Complaint Handling and Redressal Standards relating to Distribution and Supply of Power (Standards of Performance).
12. Overall Performance Standards Relating to Electricity Supply and Distribution.

Regulations issued by KERC

13. Practice Directions for submitting investment proposals.
14. Code of Practice on Payment of bills.
15. KERC Grid Code
16. Power Generation Planning and Security Standard
17. Power Generation Management and Operating Standard
18. Transmission System Planning and Security Standard
19. Transmission System Management and Operating Standard
20. Metering Code
21. Metering and Protection Standard
22. Safety Standard (Transmission and Sub Stations)
23. Distribution Code

Regulations issued by KERC

24. Distribution system Planning and Security Standard.
25. Distribution System Construction, Operation and Maintenance Standard.
26. Safety Standard for Distribution System.

Regulations issued by KERC under the Electricity Act 2003 :

1. KERC (Levy and Collection of Fee and Charges by SLDC) Regulations 2004.
2. KERC (Tariff) (Amendments) Regulations 2004.
3. KERC (Consumer Grievance Redressal Forum & Ombudsman) Regulations 2004.
4. KERC (Licensees' Standards of Performance) Regulations 2004.
5. KERC (Consumer Complaints Handling Procedure) Regulations 2004.
6. KERC (Conditions of License to ESCOMs) Regulations 2004

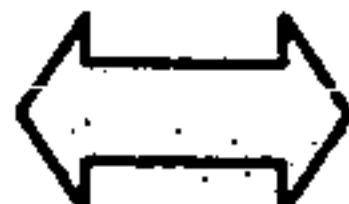
Regulations issued by KERC

7. KERC (State Advisory Committee) Regulations 2004.
8. KERC (Fees) Regulations 2004.
9. KERC (Power Procurement from Renewable Sources by Distribution Licensees) Regulations 2004.
10. KERC (Duty of Licensees to Supply Electricity on Request) Regulations 2004.
11. KERC (Eligibility Conditions and Duties of Electricity Trader) Regulations 2004.
12. KERC (Recovery of Expenditure for Supply of Electricity) Regulations 2004.
13. KERC (Licensing) Regulations 2004.
14. KERC (Electricity Supply) Code 2004.
15. KERC(Terms and Conditions for Open Access) Regulations 2004.

Aggregate Revenue Requirement (ARR)

Particulars	Amount (Rs. Crs.)
Power Purchase Cost	
Employee Costs	
Repairs and Maintenance Expenses	
Administration and General Expenses	
Depreciation	
Interest and Finance Charges	
Other Expenses	
Net Prior Period Expenses	
ROR	
Less : Expenses Capitalised	
Total Expenses (after capitalisation)	
Less : Other Income (Non-Tariff Income)	
Aggregate Revenue Requirement	

KERC Tariff Order 2005 - Summary

Available in MS EXCEL Sheet
(click here  to view the spreadsheet)

Revenue Gap, Subsidy & Tariff Increase

Particulars	Amount (Rs. Crs.)
Aggregate Revenue Requirement (ARR)	
Less : Revenue at existing rates (on accrual basis)	
Revenue Gap before Subsidy from GoK	
Less :Subsidy provided by GoK for the year	
Revenue Gap after Subsidy for which Tariff increase is proposed by ESCOMs	

Facilitating Purposeful Action-taking

If you want to build a ship, don't drum up the men to go to the forest and gather wood, saw it, and nail the planks together.

Instead teach them the desire for the sea

COSTING

Cost and Cost Classification

Basic Concepts and Meaning :

Cost : The amount of sacrifice (or outlay) attributable to a given item, process, etc.,.

Fixed Cost : Cost that remains unchanged in total as the level of activity varies.

Variable Cost : Cost that changes in total in direct proportion to a change in the level of activity.

Direct Cost : A cost that can be traced to a particular department.

Indirect Cost : A cost that is not directly traceable to a particular department.

Controllable Costs : Cost that can be controlled or heavily influenced by an individual (say Manager).

Uncontrollable Costs : Cost that an individual cannot influence significantly.

Overheads : The components of indirect material, indirect labour and indirect expenses constitutes overheads.

Cost and Cost Classification

Idle Time : Time that not spent productively by an employee due to such events as equipments breakdowns or new setups or production runs.

Opportunity Costs : It is the benefit that is sacrificed when the choice of one action precludes taking an alternative course of action.

Sunk Costs : Costs that have been incurred in the past.

Cost Control : The act of power of controlling or regulating or dominating or commanding costs through the application of management tools and techniques to predetermined objectives of quality, quantity, value and time at an optimum outlay.

Cost Reduction : A mental attitude aimed at reducing costs of goods and services. This may be achieved by innovative methods in all areas of activity.

Fixed Costs

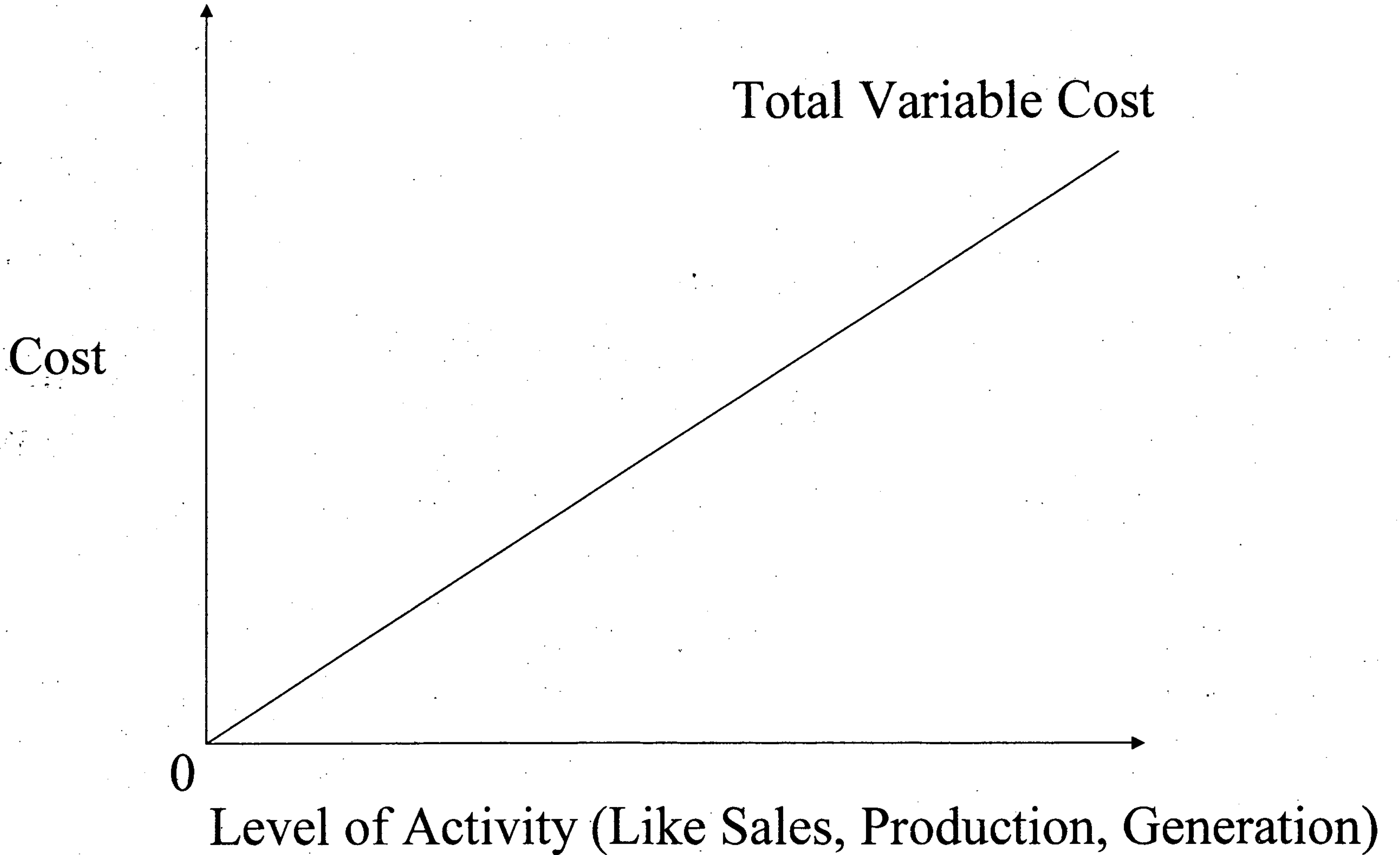
Cost

Total Fixed Cost

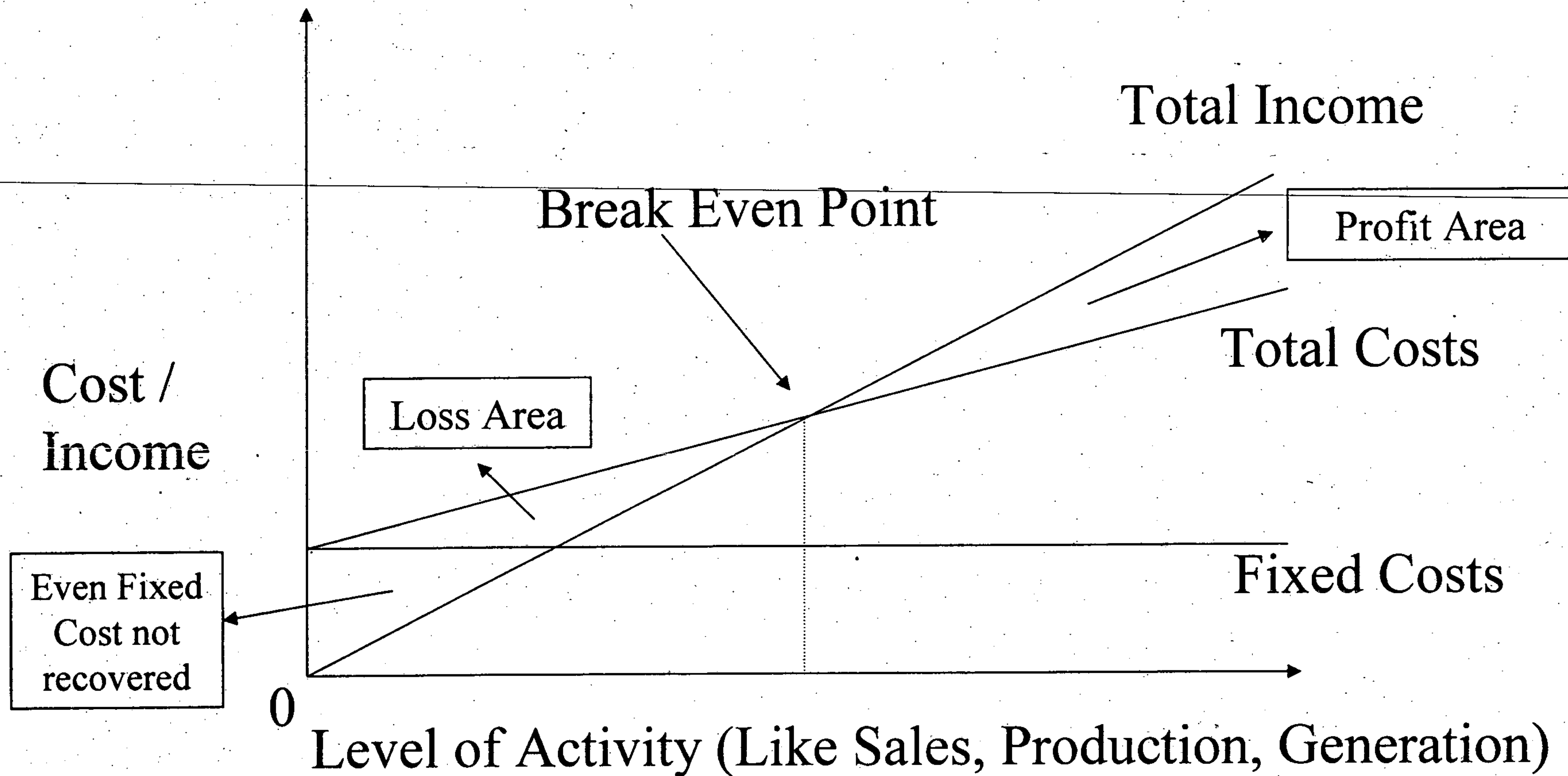
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Level of Activity (Like Sales, Production, Generation)

Variable Costs



Break Even Point



Break Even Point Formula : $\{ (FC) / (SP - VC) \}$

Where FC : Total Fixed Cost, SP: Selling Price / unit and
VC: Variable Cost unit)

Absorption Costing vs Marginal Costing

Data given :			
Total Cost per Unit	(TC)	Rs. per Unit	6.50
Selling Price	(SP)	Rs. per Unit	7.00

Analysis :		Existing Case		Decrease in Sales		Offer for Addl. Sales	
		Absorption Costing		Absorption Costing		Absorption Costing	
1	Sales (quantity in Units say 'Q')	40000		35000		45000	
2	Selling Price per unit (Rs.)	7.00		0.00		0.00	
		(Rs.)		(Rs.)		(Rs.)	
2	Income (ie., Qnty X SP)	280000		245000		315000	
3	Total Cost	260000		227500		292500	
4	Fixed Cost						
5	Variable Cost						
6	Profit (+) / Loss (-)	20000		17500		22500	

Absorption Costing vs Marginal Costing

Data given :			
Fixed Cost (Rent, Tax, Salary, etc.,)	(FC)	Rs.	60000.00
Variable Cost	(VC)	Rs. per Unit	5.00
Selling Price	(SP)	Rs. per Unit	7.00

Analysis :		Existing Case		Decrease in Sales		Offer for Addl. Sales	
		Absorption Costing	Marginal Costing	Absorption Costing	Marginal Costing	Absorption Costing	Marginal Costing
1	Sales (quantity in Units say 'Q')	40000	40000	35000	35000	45000	45000
2	Selling Price per unit (Rs.)	7.00	7.00	7.00	7.00	7.00	7.00
		(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
2	Income (ie., Qnty X SP)	280000	280000	245000	245000	315000	315000
3	Total Cost	260000		227500		292500	
4	Fixed Cost		60000		60000		60000
5	Variable Cost		200000		175000		225000
6	Profit (+) / Loss (-)	20000	20000	17500	10000	22500	30000

Concept of Fixed & Variable Cost

		Case 1	Case 2	Case 3	Case 4
		{ Rs. }			
1	Sales (quantity in units say 'Q')	20000	30000	40000	50000
2	Income from Sales (QXSP of Rs.7/Unit)	140000	210000	280000	350000
3	Less: Variable Cost (QXVC of Rs.5/Unit)	100000	150000	200000	250000
4	Sub-total (2-3) (ie., Contribution)	40000	60000	80000	100000
5	Less: Fixed Cost (FC of Rs.60000)	60000	60000	60000	60000
6	Profit(+) or Loss (-)	-20000	0	20000	40000
7	Total Cost	160000	210000	260000	310000
	Sales, Cost and Profit per Unit	{Rs. per Unit}			
8	Income from Sales	7.00	7.00	7.00	7.00
9	Less: Variable Cost	5.00	5.00	5.00	5.00
10	Sub-total (2-3) (ie., Contribution)	2.00	2.00	2.00	2.00
11	Less: Fixed Cost	3.00	2.00	1.50	1.20
12	Profit(+) or Loss (-)	-1.00	0.00	0.50	0.80
13	Total Cost	8.00	7.00	6.50	6.20

Two Part Tariff

Components	Amount (Rs. Crs.)
<u>Fixed Cost (FC) :</u>	
1. Interest on Loan Capital	
2. Depreciation	
3. Return on Equity	
4. Operation and Maintenance Expenses	
5. Interest on Working Capital	
Total Fixed Cost	
Fixed Cost per Unit (Total Fixed Cost / Net Energy sent out)	
<u>Variable Cost (VC) :</u>	
1. Cost of Primary Fuel (Fuel Cost / Unit)	
2. Cost of Secondary Fuel (Fuel Cost / Unit)	
Variable Cost / Unit	
Total Cost per Unit	

Plant Load Factor

It means, for a given period, the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period.

How to Calculate ?

$$\begin{array}{l}
 \text{Energy generation at 100\% PLF in MUs} \\
 = \frac{\text{Capacity of the Gen. Plant (MW)} \times 24 \text{ Hours} \times 365 \text{ Days} \times 100\%}{1000 \text{ (to represent the product of above in Million Units)}}
 \end{array}$$

$$\begin{array}{l}
 \text{PLF for given quantum of Energy for given MW Capacity} \\
 = \frac{\text{Given quantum of Energy MU} \times 1000}{\text{Capacity in MW} \times 24 \text{ Hours} \times 365 \text{ Days}}
 \end{array}$$

Plant Load Factor

Capacity (MW)	Hours		Days		PLF (%)	=	Energy (MU)
127	X	24	X	365	X	100%	= 1113
127	X	24	X	365	X	95%	= 1057
127	X	24	X	365	X	90%	= 1001
127	X	24	X	365	X	85%	= 946
127	X	24	X	365	X	80%	= 890
127	X	24	X	365	X	75%	= 834
127	X	24	X	365	X	70%	= 779
127	X	24	X	365	X	65%	= 723
127	X	24	X	365	X	60%	= 668
127	X	24	X	365	X	55%	= 612
127	X	24	X	365	X	50%	= 556

Impact of PLF on Cost

PLF	Energy	FC	VC	TC	FC/ Unit	VC / Unit	TC / Unit
%	MUs	Rs. Crs.			Rs. per Unit		
100%	1113	120	389	509	1.08	3.50	4.58
95%	1057	120	370	490	1.14	3.50	4.64
90%	1001	120	350	470	1.20	3.50	4.70
85%	946	120	331	451	1.27	3.50	4.77
80%	890	120	312	432	1.35	3.50	4.85
75%	834	120	292	412	1.44	3.50	4.94
70%	779	120	273	393	1.54	3.50	5.04
65%	723	120	253	373	1.66	3.50	5.16
60%	668	120	234	354	1.80	3.50	5.30
55%	612	120	214	334	1.96	3.50	5.46
50%	556	120	195	315	2.16	3.50	5.66

FC : Fixed Cost, VC : Variable Cost, TC : Total Cost

Cost Accounting Records (Electricity Industry) Rules, 2001 (CARR)

GoI Order :

The Govt. of India vide Order No. GSR No.913(E) dated 21.12.2001 have notified Cost Accounting Records (Electricity Industry) Rules, 2001.

These Rules have been issued exercising the powers conferred by Section 209 (1) (D) of the Companies Act, (1056) 1956

Applicability :

These Rules are applicable to every company engaged in the activities of Generation, Transmission & Bulk supply and Distribution and Retail supply of Electricity.

Hence, these Rules are applicable to KPTCL and ESCOMs also.

Maintenance of Records :

Every company to which these rules apply shall keep proper books of account relating to utilisation of materials, labour and other items of cost in so far as they are applicable to any of the activities referred to in the Rules.

Cost Audit

GoI Order :

The Govt. of India vide Order No. 52 / 16 / CAB 2004 dated 16.09.2005 have issued Cost audit orders in respect of Electricity companies.

These Rules have been issued exercising the powers conferred by Section 233B (1) of the Companies Act, (1056) 1956

Applicability :

These Rules are applicable to 23 Companies listed out in the Order in which KPCL and KPTCL are included.

Cost audit :

As per the order, the audit of cost accounting records as maintained under CARR, 2001 be conducted in respect of the Companies for the year ending 31.03.2006 or the current financial year as the case may be and every financial year thereafter.

Activity Based Costing

Meaning :

A set of managerial accounting methods used to identify and describe cost objects and the activities they consume, and the amount of resources the activities consume.

ABC Philosophy :

All products and services are a bundle of activities and these activities consume resources and costs.

Distinguishes between value added and non-value added activities.

Cost Drivers :

To establish a cause effect of relationship between an activity and a cost object, cost drivers are identified for each activity.

Cost Driver is a quantitative measure of activities consumed.

Mistakes

Strong people make as many mistakes as weak people. Difference is that strong people admit their mistakes, laugh at them, learn from them.

That is how they become strong.

(Richard Needham)

An expert is a person who has made all the mistakes that can be made in a very narrow field

(Niels Bohr)

REVENUE

Aggregate Technical and Commercial Loss (AT&C Loss)

Concept :

It represents the difference between units input and the units realised. It captures both the energy loss and the impact of collection efficiency

Importance :

AT & C Loss is one of the best yardsticks to measure the efficiency of an ESCOM. This can also be worked out for any Revenue Unit like Feeder, DTC, Sub-division, Division, Circle, Zone.

Billing / Collection / Business Efficiency :

The percentage of energy billed (ie., input minus T&D Loss) is the 'Billing Efficiency'. The percentage of Revenue Collection to Revenue Demand is 'Collection Efficiency'. The product of Billing and Collection Efficiency is 'Business Efficiency'. The residual ie., 1 minus Business Efficiency is the AT&C Loss (in%).

A T & C Loss

(Figures of KPTCL and ESCOMs)

Energy Purchased	31260 MUs
Bulk Energy Supplied to Hukkeri	140 MUs
Energy Sold by ESCOM to Consumers	21432 MUs
Revenue Demand (billed by ESCOM to Consumers)	Rs. 7,000 Crs.
Revenue Collection	Rs. 6,300 Crs.
T & D Loss	31.00 %
Collection Efficiency	90.00 %

$$\begin{aligned}
 \text{A T \& C Losses} &= \left\{ 1 - \left[\frac{(21432 + 140)}{(31260)} \times \frac{(6300)}{(7000)} \right] \right\} \times 100 \\
 &= \mathbf{37.90 \%}
 \end{aligned}$$

Cross Subsidy

Subsidising Category : Example : LT Industrial Category

Average Realisation Rate	Rs.4.72 per unit
Average Cost of Power Supply	Rs.3.70 per unit
Cross Subsidy per unit	Rs.1.02 per unit
Total Consumption (sales) of this category	1405 MUs
Total Cross Subsidy amount available from this category	Rs.143.31 Crs.

Subsidised Category : Example : IP Sets below 10 HP

Average Realisation Rate	Rs.0.63 per unit
Average Cost of Power Supply	Rs.3.70 per unit
Difference in ARR and ACPS	Rs.3.07 per unit
Total Consumption (sales) of this category	8790 MUs
Amount to be subsidised to this category either from Cross Subsidy or Revenue Subsidy from GoK	Rs.2698.53 Crs.

ARR

Context of Use :

ARR abbreviation denotes different meaning when used in different context. It represents “Average Realisation Rate” or “Annual Revenue Requirement” or “Aggregate Revenue Requirement”.

Average Realisation Rate :

In the normal usage Average Realisation Rate is computed by dividing ‘Demand’ (Amount in Rs.) from ‘Sales’ (Energy sold in Units). It is a relative term and when used in relation to Feeder or DTC instead of Sales, the input energy has to be taken. (This will be ARR of a Feeder or DTC)

Accrual vs Cash Basis ARR :

Though ARR is based on accrual basis ignoring the collection aspect, at times the same is used by considering the ‘Collections’ also as can be seen from terms like “Collection per Unit” in respect of a Feeder / DTC / Tariff.

ARR

Annual Revenue Requirement:

It is the total Revenue Expenditure during a period, which is considered in ERC and Tariff determination process. After taking into account the revenue at existing rates, non-tariff income and subsidy from the State Govt., the tariff proposals are made for the unmet expenditure.

Aggregate Revenue Requirement :

It is also Revenue Requirement during a period but includes the deficit of previous years if any, proposed for pass through in the tariff. The KERC Tariff Regulations, 2000 which we are following require ERC filing indicating three years figures and indicating Aggregate Revenue Requirement.

Qualifying the Term :

In view of the above distinct meaning for ARR, it would be better to qualify the ARR wherever used by expanding the same and indicating the components used for computing the same.

Average Cost vs Cost to Serve

Average Cost of Power Supply :

It is the average pooled cost per unit of supply at the consumer point worked out by dividing total cost by the net energy sold. At present the tariff determination is also being done based on this average cost. For working out cross-subsidy also a uniform average cost is used in respect of all category of consumers.

Cost to Serve :

It is the average cost of supply in relation to a category of consumers. The cost of supplying power to different category of consumers involves different costs depending on the factors like voltage of supply, energy loss, etc., which are taken into account to determine the Cost to Serve.

Under Open Access regime, for working out the "Surcharge" (ie., compensating for loss on account of cross-subsidy), the Cost to Serve is very much relevant and enables proper determination of charges.

Energy Audit

Concept :

In the context of Transmission and Distribution functions, simple meaning of Energy Audit is keeping an account of Energy Input and the Energy Realised.

Importance :

With Reforms and Restructuring measures initiated in the power sector coupled with intervention of Regulator and power purchase cost is steeply increasing, the Energy Audit is becoming crucial aspect in the sector.

Method and Purpose :

The Energy Audit can be carried out at DTC (Distribution Transformer Centre) level, Feeder level, O&M Unit Level, Sub-division / Division / Circle / Zone / ESCOM level depending on the requirement and focus.

Simply carrying out the Energy Audit without analysing the results and taking further corrective action to identify the high loss areas and plugging the loss is of no use. The results should be effectively used for short listing the DTCs / Feeders having abnormal losses, negative losses, etc., for taking appropriate action.

DTC-wise Energy Audit

Concept :

The DTC-wise Energy Audit is becoming a key performance evaluation parameter as it is the last point in our supply chain before energy reaches the consumer's installation. It is also construed as the best micro-level management criteria as the result would point out specific area of supply contributing to high loss may be due to technical reasons or due to commercial loss by way of theft, pilferage, metering inaccuracies, etc.

Steps :

1. Metering at DTC level is the key factor for carrying out DTC-wise energy audit.
2. Input at DTC level is taken based on DTC meter reading.
3. Consumption as per DCB is taken as the energy sold (if all the installations are metered)
4. If all the installations under the DTC are not metered, the consumption in respect of unmetered installations has to be assessed based on some reasonable realistic basis.

Contd.,

DTC-wise Energy Audit

Steps :

5. From the total energy input of the DTC, the sum of billed consumption as per DCB and the assessed consumption in respect of unmetered categories is deducted to arrive at the energy loss.
6. The percentage of energy loss to the energy input is the DTC-wise Energy Loss.

Energy Audit Results and Corrective Action :

After carrying out the Energy Audit in respect of all DTCs in O&M Unit / Sub-division, the list has to be arranged in descending order (using SORT function of MS- EXCEL).

Keeping the allowable loss (say 2.5% in Urban DTCs and 5% in Rural DTCs) as the basis, the installations under DTCs having loss above this level are to be subjected to thorough verification either by physical checking or meter calibration by the MT wing or both measures.

The results of DTCs having negative loss should also be analysed to ascertain the reasons and correcting the problems.

Based on the report from MT wing after calibration action as suggested may be initiated.

Change / Vision

Change alone is eternal, perpetual, immortal

(Arthur Scholpenhauer)

Change is the law of life. And those who look only to the past or present are certain to miss the future.

(John F. Kennedy)

The most pathetic person in the world is someone who has sight, but no vision.

(Heller Keller)

GENERAL

Stake Holders

(Parties interested in the Affairs of the Company)

- **Shareholders**
- **Government**
- **Investors**
- **Creditors**
- **Lenders**
- **Employees**
- **Researchers**

Canons of Financial Propriety

- **Expenditure should not be prima-facie more than the occasion demand**
- **Every employee should exercise the same vigilance as if it is their own money**
- **The cost should not be an advantage to any individual who is exercising the powers**
- **Public money should not be utilized for the benefit of any individual or section of the community...**
- **Allowances given at the cost of the company should not be a source of profit to the recipient**

ESCROW Arrangement

A financial instrument held by a third party on behalf of the other two parties.

The funds are held by the escrow service provider until it receives the appropriate written or oral instructions or obligations are fulfilled.

It can also be stated as 'Control over the finance of a party held by a third party (normally a Bank) to make payment to a second party specified in the agreement, as and when such payments are demanded by a said second party subject to certain conditions.

In simple terms, it is Money, property, a deed or a bond put into the custody of a third party for delivery to a grantee only after the fulfillment of the conditions specified.

It is a Payment Security Mechanism (PSM) clause generally included in Power Purchase Agreement.

Bench Marking

Benchmarking attempts to assess the competence of a company against the best performing company in that class.

It is often used to refer to the continuous process of measuring products, services and activities against the best level of performance.

An example in the context of level of benchmarking in case of resources which could be measured as quantity of resources against revenue /employee and also capital / employee.

In Indian Power Sector, the companies like NTPC and Reliance Energy can be considered as benchmarking on certain key performance parameters.

Open Access

Open Access means the non-discriminatory provision for the use of transmission lines or distribution system or associated facilities with such lines or systems by any licensee or consumer or a person engaged in generation in accordance with the regulations specified by the Appropriate Commission.

Open Access would pave the way for retail competition thereby driving down power costs. It would facilitate power trading and make redistribution of surplus across the system.

Key consideration in Open Access regime are current level of cross-subsidies, surcharge, manner of payment and utilisation of surcharge, etc.,.

Corporate Governance

Definition : Corporate Governance is considered with the relationship between the internal Governance mechanisms or corporations and society's conception of the scope of corporate accountability.

Company's philosophy on Corporate Governance :

As a good corporate citizen, the company is committed to sound corporate practices based on conscience, openness, fairness, professionalism and accountability in building confidence of its various stakeholders in it thereby paving the way for its long term success.

Objective : The fundamental objective of corporate governance is the "enhancement of the long term shareholder value while at the same time protecting the interests of other stakeholders.

Availability Based Tariff (ABT)

What is ABT ?

Capacity charge related to availability of the Generating Stations.

Energy charge based on energy scheduled to be sent out.

Charges for Un-scheduled Interchange.

Concept of ABT :

Capacity allocations from generating station to each constituent will be owned by that constituent.

Constituent has to pay full fixed charges for the allocated power.

Constituent can trade the capacity allocated.

Constituent can schedule the energy from each generator as per the requirement and Merit Order and can save cost of power purchase.

CERC will fix target availability at which fixed charges can be recovered in full.

Generator generates as per the requirement of constituents subject to technical limitations.

Generator gets incentive for better performance.

Generator receives variable charge as per scheduled generation.

Deemed Generation

Meaning :

The reduced generation due to reasons beyond the control of the Generating Station or on account of non-availability of transmission lines or on receipt of backing down instructions from the concerned Load Despatch Centre resulting in spillage of water or incurring of other variable expenses during the said period is called Deemed Generation.

The energy charges on account of such reduced generation shall be payable to the Generating Station.

Importance :

Normally, Deemed Generation clause is one of the key factor built into the Power Purchase Agreement which determines the payment of charges for such deemed generation at a later date by the Purchaser to the Generator.

Vision 2020

Background : Recently KPTCL has released 'Vision 2020' document indicating prospects and challenges in Transmission and Distribution area of Karnataka Power Sector.

Contents : Corporate Governance, Mission of T&D utilities, Standard performance, Challenges Ahead, Strategies, Way Forward, Power Trading, Loss Reduction Measures, Strengthening R&D wing and MIS wing, Establishing of new HRD Center, Energy Conservation, SCADA, Voltage and Frequency regulations, IT initiatives, RLMS, Managerial and Administrative measures, Customer care measures, etc.

Objectives : To make the sector consumer friendly, financially viable and to function effectively on commercial principles together with its social obligations.

The document envisages plans and strategies to achieve the objective of making Karnataka Power Sector number one in the country.

Special Terminologies

TQM	Total Quality Management
FMCG	Fast Moving Consumer Goods
JIT	Just In Time
ABM	Activity Based Management
IPO	Initial Public Officer
MBO	Management By Objectives
MBE	Management By Exception
EVA	Economic Value Added
FIFO	First In First Out
LIFO	Last In First Out
EBIT	Earnings Before Interest & Tax
PBIT	Profit Before Interest and Tax
PAT	Profit After Tax
ROR	Rate Of Return

ROE	Return On Equity
ROI	Return On Investments
ROCE	Return On Capital Employed
MAT	Minimum Alternate Tax
MYT	Multi Year Tariff
LOLP	Loss of Load Probability
DNS	Demand Not Served
AMR	Automatic Meter Reading
DSM	Demand Side Management
HVDS	High Voltage Distribution System
RLMS	Rural Load Management System
SCADA	Supervisory Control & Data Acquisition
SBU	Strategic Business Unit
IBF	Input Based Franchise

Judgment

*Good judgment comes from
experience, and often experience
comes from bad judgment.*

(Rita Mae Brown)

BASIC TECHNICAL ISSUES

Unit of Measurement (Kwh & MW)

- One Kilowatt of energy (generated/consumed) in an hour is a Kwh or Unit (K=1000)
- One Megawatt (MW) of energy (generated/consumed) in an hour is 1000 Kwh (Mega=10 Lakhs)
- For One MW, the energy for one day (24 hours) is 24000 Kwh.
- For One MW, the energy for one year (365 days) is 8760000 Kwh.
- In terms of Million Units the energy for One MW for One Year translates to 8.76 MU.

Example : For a Generating Station of 127 MW (DG Plant, Yelahanka) the equivalent energy can be worked out as follows :

Total Energy that can be generated at 100% capacity in One Year

=

Generation Capacity in MW

X

8.76 MU

=

127 MW

X

8.76 MU

= 1112.52 MU

For Generation Capacity of <100%, the equivalent energy can be worked out proportionately. The level for which the energy is so computed is called the 'Plant Load Factor (PLF)'. By using the PLF% the Energy can be worked out and vice-versa.

Unit of Measurement (V, Hz, KVA and Kcal)

Voltage : It is the potential difference between two points in an electrical network. The unit of measuring the voltage is Volts, Kilovolts.

Frequency : The number of repetitions of an electric waveform per unit of time.

It is represented as 'Hz' or 'Hertz'.

KVA : Kilo Volt Ampere. It is the unit of reactive component of power.

Calorific Value : It is defined as the calories or thermal units contained in one unit of substance and released when the substance is burned.

It is the amount of heat released during the combustion of a fuel.

It is called the 'Heating Value' also. It is expressed in Calories or Kilo-

Calories (like Kcal/kg).

Type of Conductors

Various types of conductors are used in Transmission and Distribution lines. Most of the conductors are named after animals for easy remembrance. The types of conductors and the normal usage of the same is as under :

- | | | |
|----|-------------------|---|
| 1. | 4 ACSR – Squirrel | Used in LT Distribution |
| 2. | 2 ACSR – Weasel | Used in LT Distribution |
| 3. | Rabbit | 11 KV and Distribution Lines in Cities |
| 4. | Coyote | 11 KV, 33 KV Lines (Sub-transmission), 66 KV and EHT Lines. |
| 5. | Lynx | 110 KV, EHT Lines |
| 6. | Drake | 220 KV, EHT Lines |
| 7. | Moose | 220 KV and 400 KV Lines |
| 8. | Falcon | Bus at 220 KV Stations |

Cost of conductor is normally dependent on :

Cross Section area (ie.,Size)

Current carrying capacity

Resistance

Peak Load

It is the maximum load prevailing on the system for a block of 15 minutes during a specified period.

It is used for load forecasting, deciding on capacity addition, etc.,.

The Peak Demand (restricted) recorded in our system during the last few years are as under:

1999-2000	4135 MW	2000-2001	4579 MW
2001-2002	4644 MW	2002-2003	4805 MW
2003-2004	5445 MW	2004-2005	5612 MW

Voltage Class

Different Voltage Classes :

230 V (Single Phase), 440 V (Three Phase), 11 KV, 33 KV, 66 KV, 110 KV, 220 KV and 400 KV.

In some States, voltage class of 4.6 KV, 132 KV, etc., also exists.

Normal Usage :

230 V, 440 V - for LT Distribution of power.

11 KV, 33KV - for Transmission and HT consumers

66 KV and above – Transmission voltages

Generation :

Normally, power is generated at 11 KV and stepped up to 220 KV for transmission

Merit Order Despatch

(Following is neither a definition nor meaning extracted from proper source; it is only an explanation for understanding)

In simple terms, Merit Order Despatch is purchasing power from the cheapest sources subject to technical considerations, system constraints, contractual obligations and the real time conditions prevailing at a specified period.

MoD is issuing despatch instructions in ascending order of relevant prices that are offered for the generation of electricity into the total system, keeping in view the constraints on hydro-generation and

In deciding the MoD, the issues like Two Part Tariff (Fixed and Variable), Firm and Infirm power, PPAs, Support to Peak Demand, Demand Side Management (DSM) options, etc., are considered.

Formula for T&D Loss computation

The energy lost in a Transmission and Distribution system is called the T&D Loss.

The same may further be classified as under :

Transmission Loss

Voltage class-wise loss

Distribution Loss

11 KV Loss and Secondary Loss

Technical Loss

Commercial Loss

Formula for T&D Loss Calculation : $I^2 R$

where I = Current in Amps flowing in a line.

R = Resistance of the conductor used for the line in Ohms / km.

Hope / Creativity

The pessimist sees difficulty in every opportunity. The optimist sees the opportunity in every difficulty.

(Winston Churchill)

Creativity is a type of learning process where the teacher and the pupil are located in the same individual

(Arthur Koestler)

AUDITING

Basic Concepts of Audit

Auditing : A systematic examination of the books and records of a business or organisation in order to ascertain or verify and to report upon the facts regarding the financial operations and the results thereof (Montgomery).

In simple, auditing means an examination of the accounts books and the related documentary evidence by an independent qualified person in order to ascertain the accuracy of the figures appearing therein.

Objectives of Audit :

Detection and prevention of errors.

Clerical errors, Errors of Omission, Errors, Compensating errors, Errors of duplication and Errors of principle.

Detection and prevention of fraud

Embezzlement or Misappropriation of Cash, Misappropriation of Goods and Manipulation of Accounts.

Internal Audit / Check / Control

Internal Audit : Relates to review and appraisal of operation and functions by internal staff. An independent appraisal activity established within an organisation.

Internal Check : The procedures are designed to provide assurance that

- (a) All the transactions and other accounting information which should be recorded have, in fact been recorded.
- (b) Errors or irregularities in processing accounting information will become apparent.
- (c) Assets and liabilities recorded in the accounting system exist and are recorded at the correct amounts.

Internal control : A system of control wherein the accounting work of one employee is complemented and verified by the work of another employee working independently and without duplication of the other's work.

Types of Audit

- 1. Statutory Audit**
- 2. Internal Audit**
- 3. Cost Audit**
- 4. Management Audit**
- 5. Periodical Audit**
- 6. Special Audit**

Internal Audit in KPTCL / ESCOMs

Internal Audit in KPTCL and ESCOMs cover the following key areas :

- Revenue Audit**
- Cash Audit**
- Voucher Audit**
- Audit of Turnkey Works**
- Audit of Projects (ie., Capital Works)**
- Material Audit (Stores, etc.,)**
- Audit of Accounts (Trial Balance, M(F) Accounts, etc.,)**

Cash Audit

(Based on Circular No. BESCO/BC.33/1102/2005-06 dated 11.7.05 of BESCO issued in respect of Cash Audit and Bank Reconciliation Statement at Sub-divisions and Section Offices)

Action to be taken by Audit Staff:

Inspect (surprise inspection) all Sub-divisions and Section Offices at least once in a year to verify Cash Accounts and BRS.

Verify as to maintenance of Cash Accounts and preparation of BRS up to date.

Verify as to transfer of remittances from Non-operative account to Company's Main Account on the same or next day.

Verify whether the Receipt Book and Computer Receipt are the same as printed and supplied by the Company as also the proper maintenance of their accounts.

Cash Audit

Verify whether the revenue collections have been remitted to Non-operative account without any delay.

Verify whether separate denomination register is maintained in respect of each Cash Counter where the number of cash counters are more than one.

Verify whether the original copies of cancelled receipts are pasted in the denomination register.

In respect of dishonoured cheques verify whether amount withdrawn from consumer's ledger account and levying of interest, cheque dishonour fee are correct.

Auditing in EDP Environment

(Points listed out based on observations during Inspection by Revenue Improvement and Loss Reduction Team constituted by MD, KTPCL)

Even under computerised scenario Registers like 6A, 6B Registers, Meter Constant Register, Register of Appeal / Court / Vigilance / MT Cases, Checking OB against Consumer Accounts before and after computerisation, etc., are to be verified.

Though Audit Officers / staff are not required to understand the Billing software fully, it is of utmost importance that they should be aware of broad framework of the software.

In particular, the Audit Officer / Staff should be familiar with the mode of generating various 'Reports' either through front end or back end queries.

In respect of any key data required to be generated using software for which no provision has been made, the Agency maintaining the software may be appraised of the requirement and asked to develop Reports or Queries for generating Reports.

Auditing in EDP Environment

Provision made in the Software for generating reports in respect of items like Bills not issued, Arrears list, Nil Consumption, Installations with remarks like continuous Door lock, Readings not furnished, etc., have to be utilised fully by the Audit for analysing and pointing out deficiencies, discrepancies, shortcomings.

Audit should adopt MBE (Management By Exception) approach wherein instead of verifying voluminous data, they can generate Exceptional Report or Sort the Data (using computer) to short list the items and prioritize for detailed verification.

As key data relating to certain technical issues like Energy Audit, Disconnections not attended, Disconnections only on paper (without effecting it physically), Reading not furnished list of installations etc., can be generated easily using computer software, Audit can use such data for pointing out lapses effectively.

Auditing in EDP Environment

Auditing in EDP Environment requires more of analytical approach than merely an exercise of verification / checking. To quote see the following examples.

In one Sub-division, the Meter Constant Register was not updated since 2000. Using computer software a list of installations with 'Multiplying Factor' was generated and observed that there were 45 such installations. The RR dockets of these installations were picked for verifying and ensuring that the meter constant applied for billing is correct.

In many Sub-divisions, the Disconnection Lists are prepared keeping the amount as the basis like Rs.1000 and above, Rs.5000 and above etc. Under this routine method (without sorting) focus will not be on disconnecting installations prioritizing on arrears basis. Instead the entire Disconnection List generated can be sorted in descending order to pick the installations with highest arrears followed by others in the order which can be proposed for disconnection. In addition to routine reports, such exceptional reports can be generated by Audit for specific focus.

Key Items in Audit of Turnkey Works

The main points requiring focus by the Audit in respect of Turnkey works are :

- **Scope of the Work**
- **Approval of DPR**
- **Authority for award**
- **Reference to APW**
- **Commercial Terms & Conditions in the Enquiry**
- **Key issues in Tender and Quotations :**
- **Technical bid, Commercial Bid, Evaluation, Tender process method, etc.,**
- **Currency, Various Clearances (Land, Forest, Railways, etc.,)**

Common Sense

*Common Sense is the knack of
seeing things as they are, and
doing things as they ought be done.*

(Harriet Beecher Stowe)

COMPUTER RELATED ISSUES

Computer Basics

What is computer ?

A Computer can be defined as an electronic device which can process large volumes of data using pre-defined instructions set by a human being.

In simple, it is a tool for managing information. It can create documents, store and analyse data, create and edit graphics, create and display multimedia, connect to and interact with other computers around the world and control other devices.

Hardware : What you can touch and feel. They are physical components of a computer. Hardware is useless without software.

Software : Electronic information used by the computer. It is a sequence of instructions, in the form of a program to perform a particular task on a computer.

Types of Software : Operating System, Programs and Data.

Computer Basics

Types of Operating System : DOS, Windows, Macintosh, UNIX, etc.,

Programs (Applications) : Word Processing, Spreadsheet, Database, Desktop Publishing, etc.

Data : Files created and used, Documents (text), Numerical data, Graphics, Multimedia, etc.

Components of Computer System :System Unit, Monitor, Keyboard, Mouse, Disk Drives, Diskettes, Motherboard, CPU, RAM, Slots, etc.

Types of Computers: Mainframes, Microcomputers (Personal computers), Notebooks.

Measuring RAM : One Byte= 1 character, 1Kb=1K=1024 bytes, 1MB=1 Million bytes, 1GB=1 Billion bytes.

Micro Soft (MS) WORD

- Starting MS-Word**
- Opening a new Document**
- Opening an Existing File**
- Typing Text**
- Selecting Text**
- Deleting Text**
- Saving the Document**
- Copying, Moving, Inserting**
- Copying information, Moving information**
- Inserting and Overwriting Text**

Micro Soft (MS) WORD

- Spell Check and Grammar**
- Find and Replace**
- Formatting Fundamentals :**
- Characters and Fonts**
- Character Formatting Tools**
- Changing Font and Font size**
- Line Spacing**
- Paragraphs and Alignment**
- Numbering and Bullets**
- Tables**

Micro Soft (MS) EXCEL

- MS Excel
- Starting Excel
- Contents of a worksheet
- Opening a new Workbook
- Opening an existing File
- Working with a Spreadsheet
- Saving and printing a Workbook
- Editing the Working sheet
- Inserting Rows and columns

Micro Soft (MS) EXCEL

- Deleting Rows and Columns**
- Deleting Cells**
- Worksheet Formatting**
- Columns Width and Rows Height**
- Cell Formatting**
- Functions**
- Entering Formula**
- Creating, Modifying Charts**

Micro Soft (MS) POWER POINT

- Presentation**
- Creating Presentation using Auto content Wizard**
- Creating Presentation using Design Template**
- Creating Presentation using Blank Presentation**
- Opening an Existing Presentation**
- Entering and Editing Text**
- Formatting Presentation**
- Text Formatting**
- Drawing Objects in Power Point**

Micro Soft (MS) POWER POINT

- Crating and Changing Colour Schemes**
- Adding a Shaded Background to Slides**
- Cutting, Copying, Pasting, Duplicating and Resizing Objects**
- Adding ClipArt to Slides**
- Inserting Graph**
- Inserting Excel Chart**
- Handouts and Slides**
- Slideshow with Transition and Animation effects**

Special Terminologies

HTML	Hyper Text Markup Language
HTTP	Hyper Text Transmission protocol
ISP	Internet Service Provider
RAM	Random Access Memory
WWW	World Wide Web
CPU	Central Processing Unit
ROM	Read Only Memory
CD	Compact Disk
LAN	Local Area Network
WAN	Wide Area Network
CAD	Computer –Aided Design
CAM	Computer-Aided Manufacturing
FTP	File Transfer Protocol

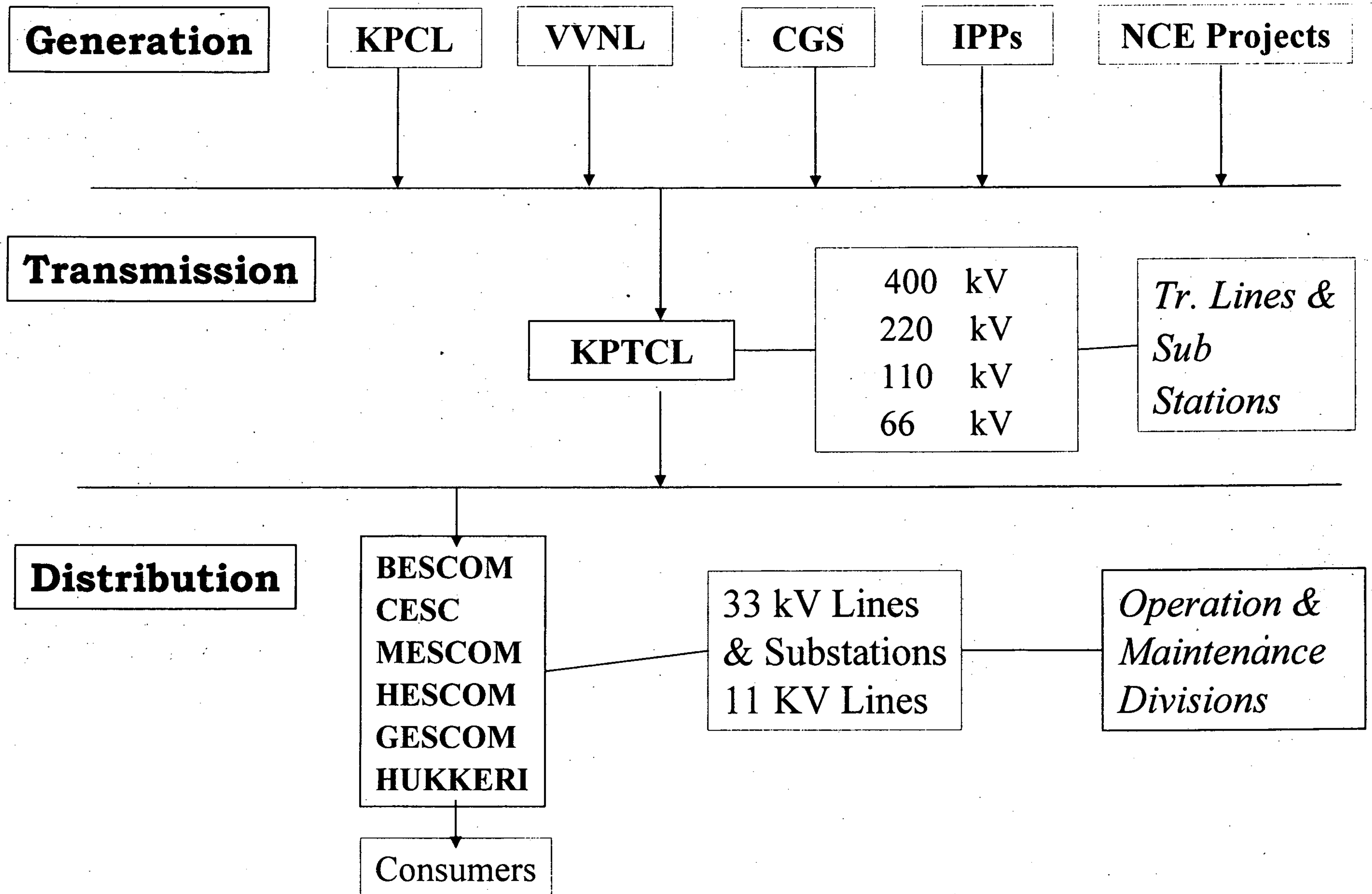
RDBMS	Relational Database Management System
MB	Megabytes
Upload	Operation of moving a file from your computer to a remote location.
Download	Operation of moving a file from a remote location to your computer.
Userid	Name that identifies you to your ISP or E-mail box.
Password	Non-displaying set of characters which allow you to enter into ISP, E-mail or a File.
Surfing	Surfing the net is jumping from web page to web page using the hyperlink capability.
Server	Software application that provides services for a client
E-mail	Electronic mail is the use of communication network to send information to some one else.

Sector Information (KPTCL + ESCOMs)

Public Sector Companies

- Karnataka Power Corporation (KPCL)
- Visveshwaraya Vidhyuth Nigama Limited (VVNL)
- Karnataka Power Transmission Corporation Limited (KPTCL)
- Karnataka Renewable Energy Development Limited (KREDL)
- Bangalore Electricity Supply Company Limited (BESCOM)
- Mangalore Electricity Supply Company Limited (BESCOM)
- Chamundeshwari Electricity Supply Corporation Limited (CESC)
- Hubli Electricity Supply Company Limited (HESCOM)
- Gulbarga Electricity Supply Company Limited (GESCOM)

Structure of Power Sector in the State



Power Sector at a Glance

{ All figures are as at 31.3.2005 or pertains to FY 2004-05 }

Installed Cap.(excl. CGS)	6312 MWs
No. of Consumers	12976095
Length of Tr.Lines	32035 ckms
No. of Stations	804
No. of DTCs	213313
HT Lines (length)	166974 KMs
LT Lines (Length)	411334 KMs
Connected Load	21910 MWs
Peak Load	5612 MW
Energy Purchase	33110 MUs
Energy Sales	23321 MUs
T&D Loss	29.52%
AT&C Loss	35.79%

Annual Revenue	Rs. 6940.Crs.
Annual Exp(incl. ROR)	Rs.8280 Crs.
Subsidy Req. (Gap)	Rs.1340 Crs.
Avg. PP Cost	181.62 Ps/unit
Avg. Cost of P / S	355.03 Ps/unit
Avg. Realn. Rate	289.17 Ps/unit
Capex for the year	Rs. 1170 Crs.
Loans O/s (excl. GoK)	Rs.3075 Crs.
Receivables (from Con.)	Rs. 2186 Crs.
Payables (PP Dues only)	Rs.2987 Crs.
Equity (31.3.05)	Rs. 1384 Crs.
Fix. Assets (Net- 31.3.05)	Rs. 4892 Crs.
Colln. Eff. (as per DCB)	89.94 %

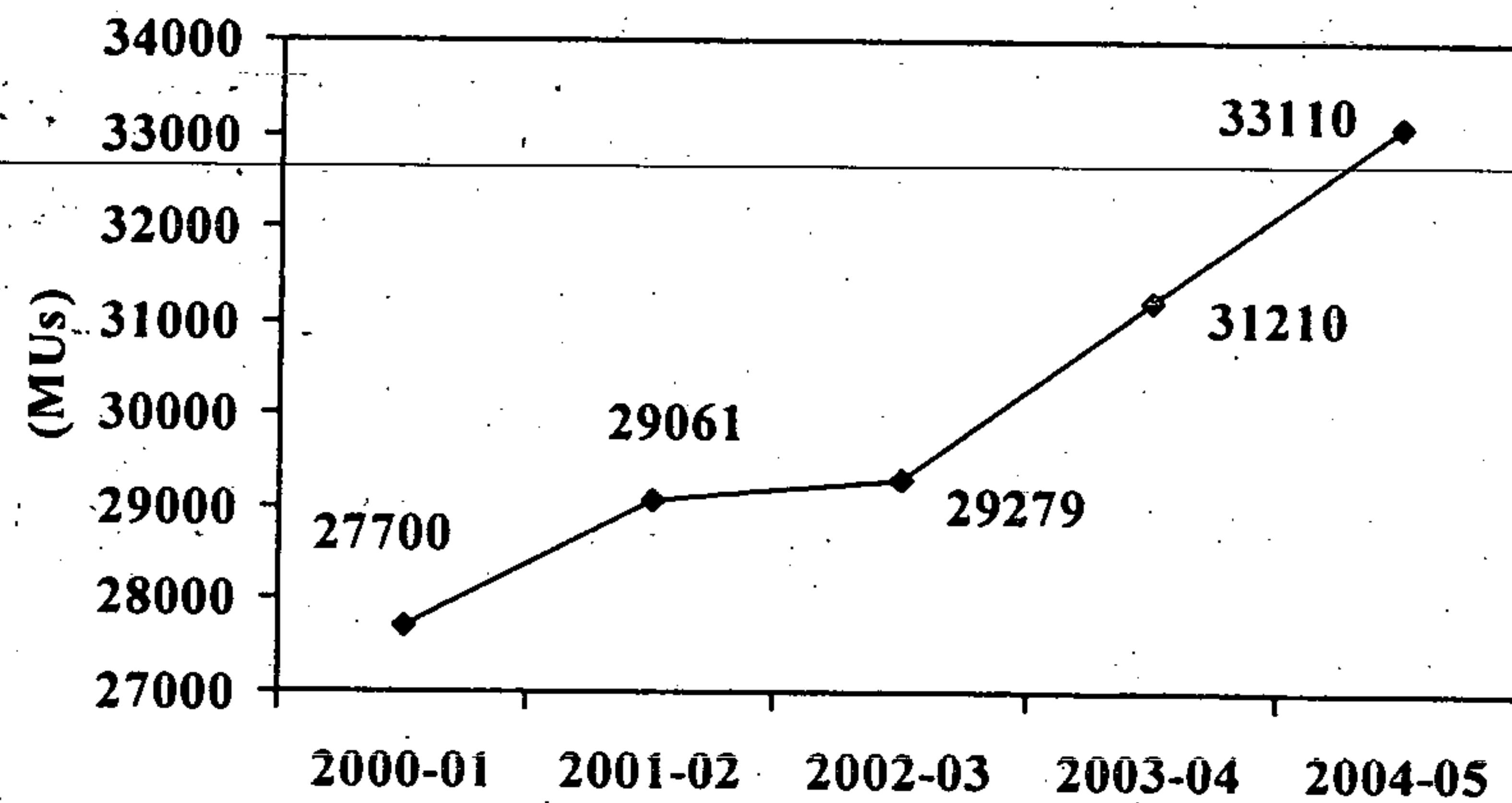
Sector Cost Profile

Rs. Crs.

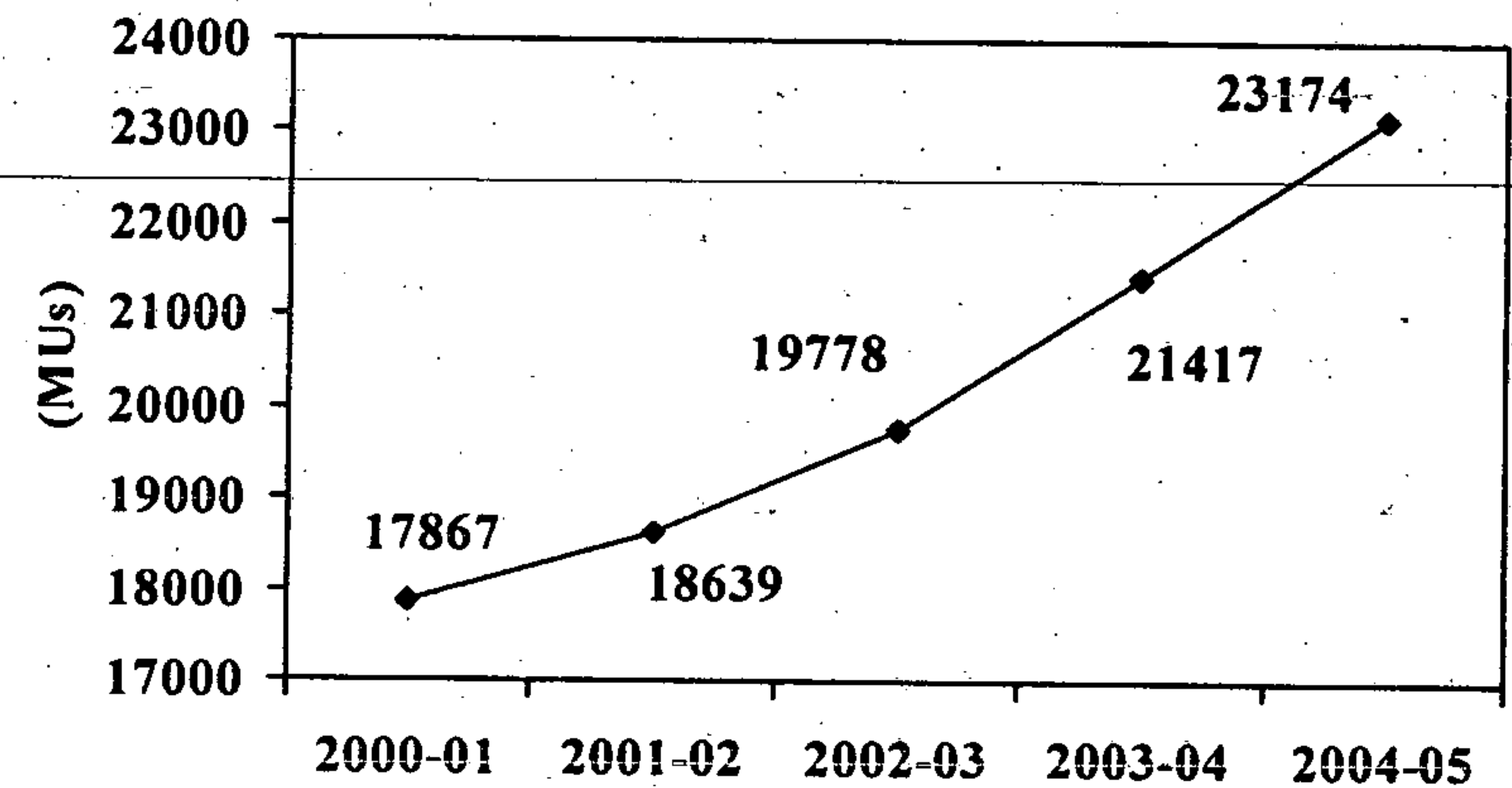
Particulars	2002-03	2003-04	2004-05	2005-06 (KERC Appd.)
	Actuals	Actuals	Actuals	Tariff Order -05
Power Purchase Cost	5393	6025	6014	6615
Transmission Expenses	807	638	761	657
Distribution Expenses	1201	1256	1505	1593
Total Expenses	7401	7920	8280	8865

Growth of Key Parameters (SECTOR)

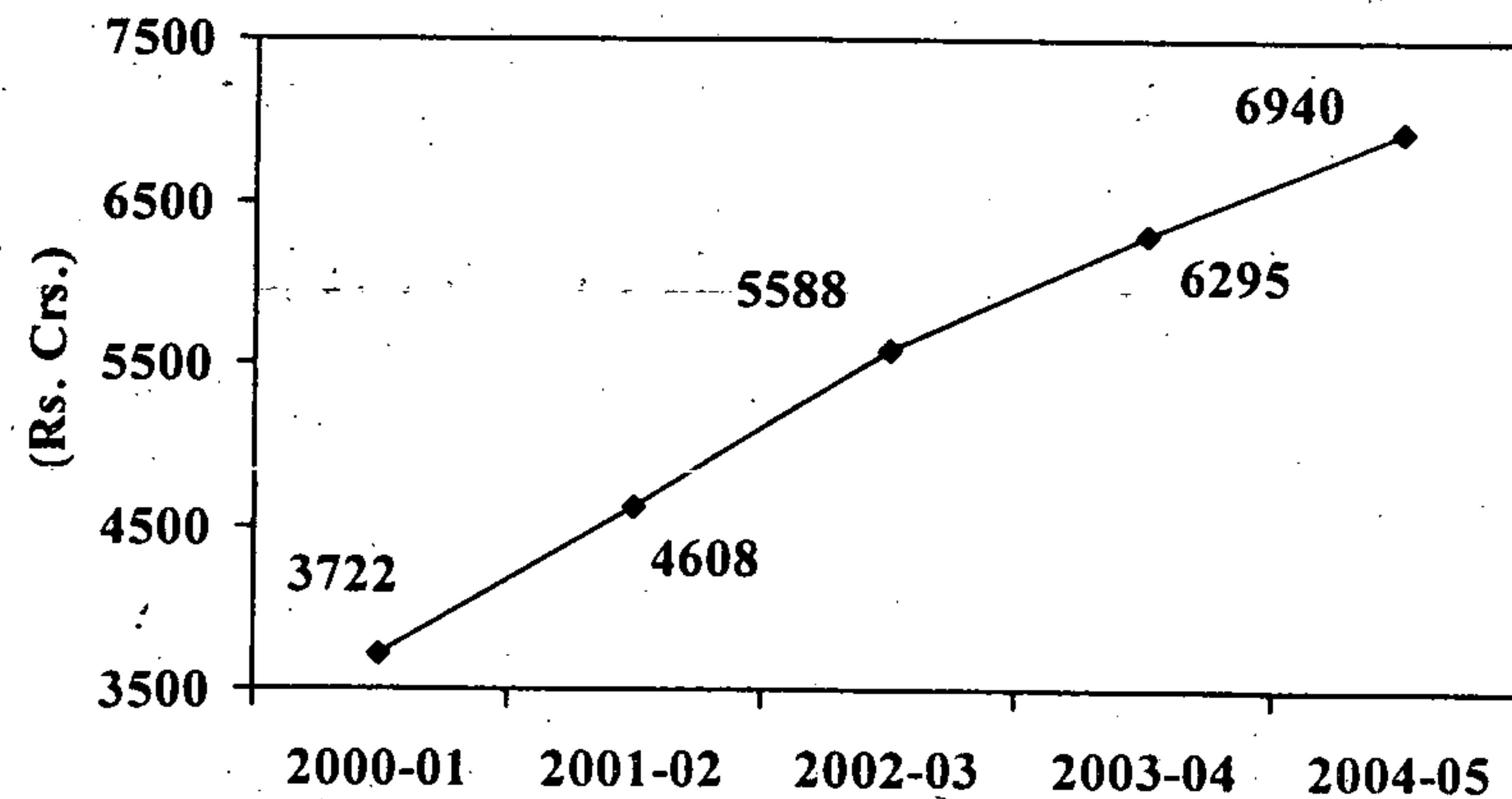
Power Purchase



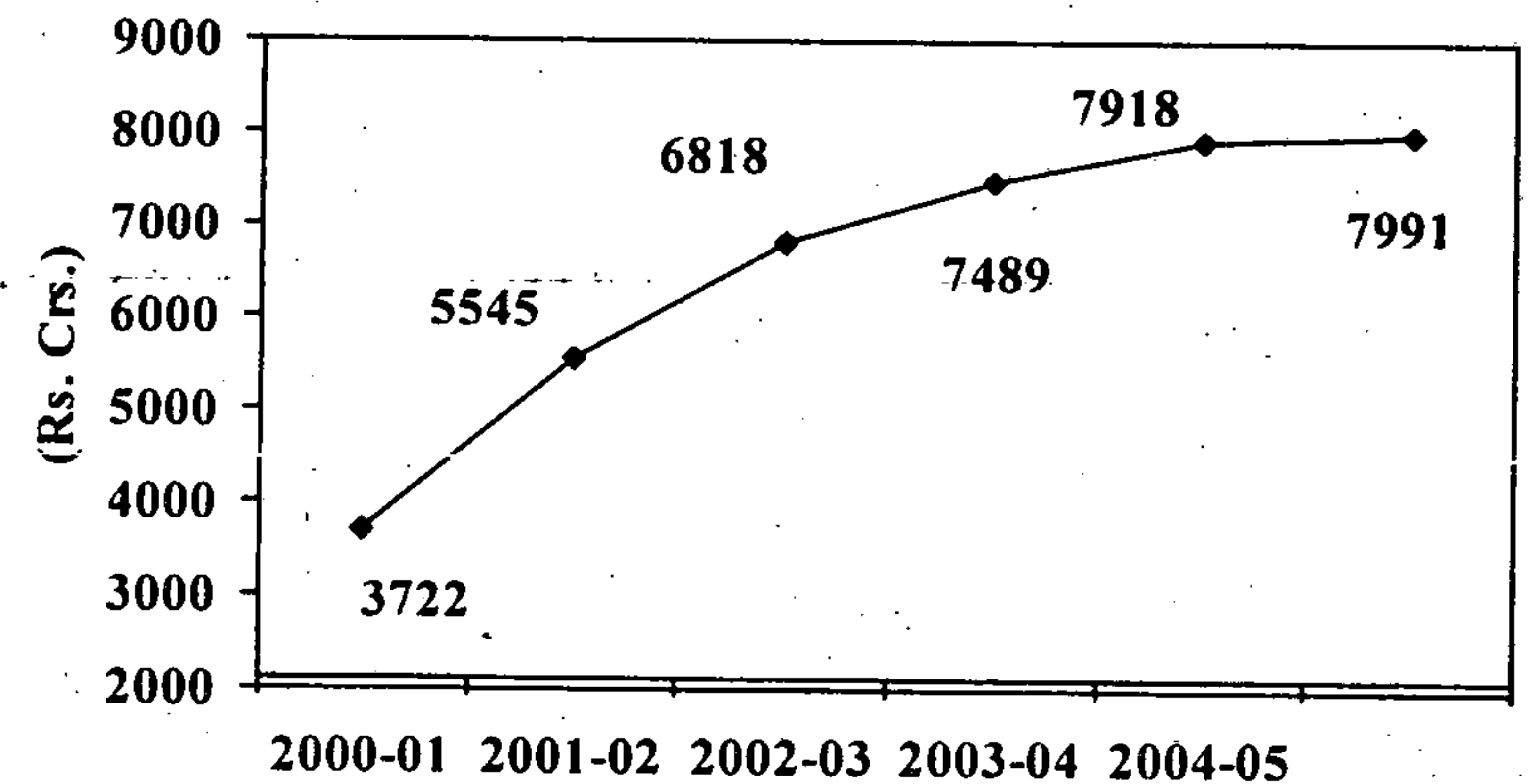
Sales to Consumers



Revenue (all inclusive)



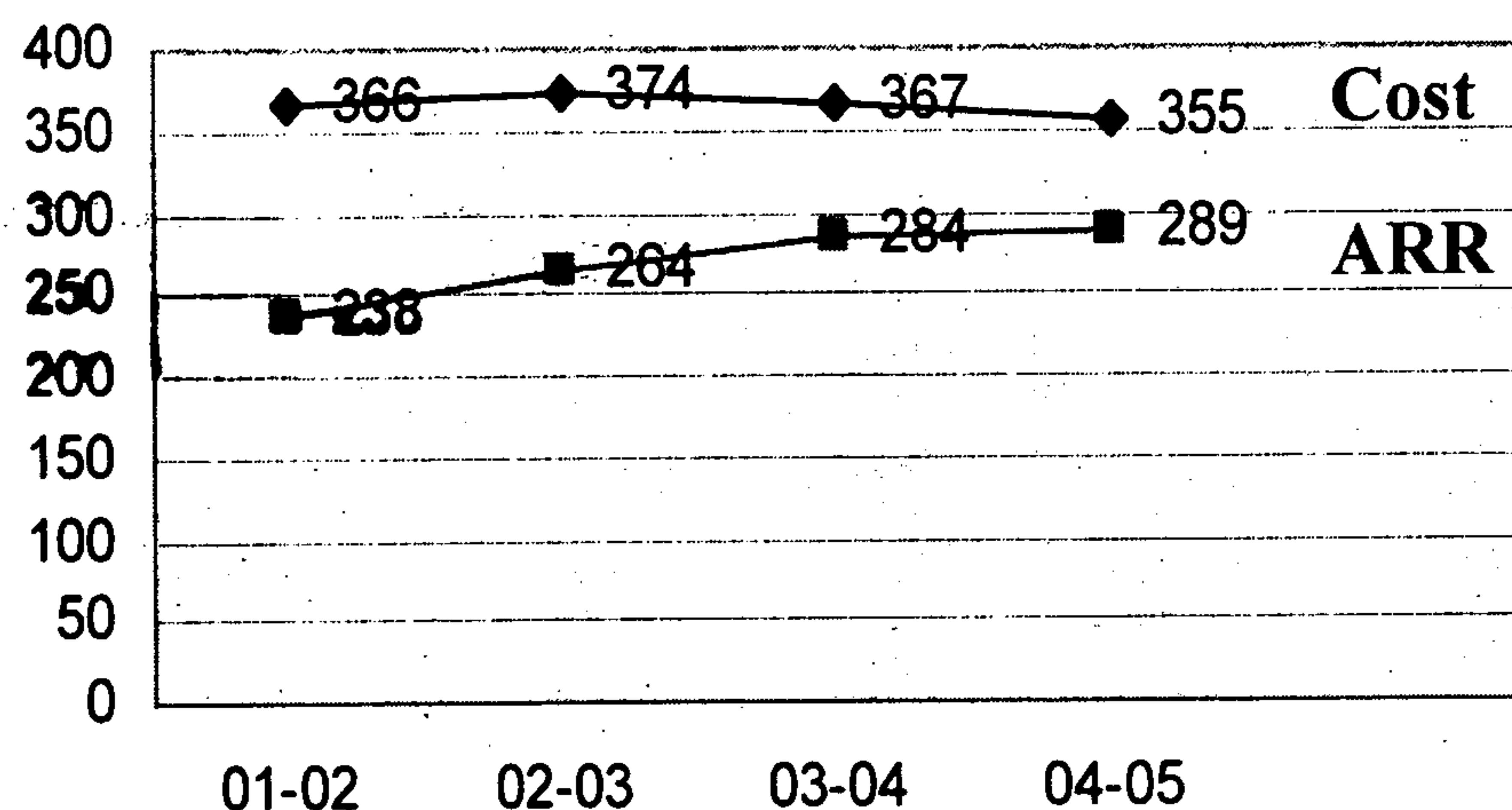
Expenditure



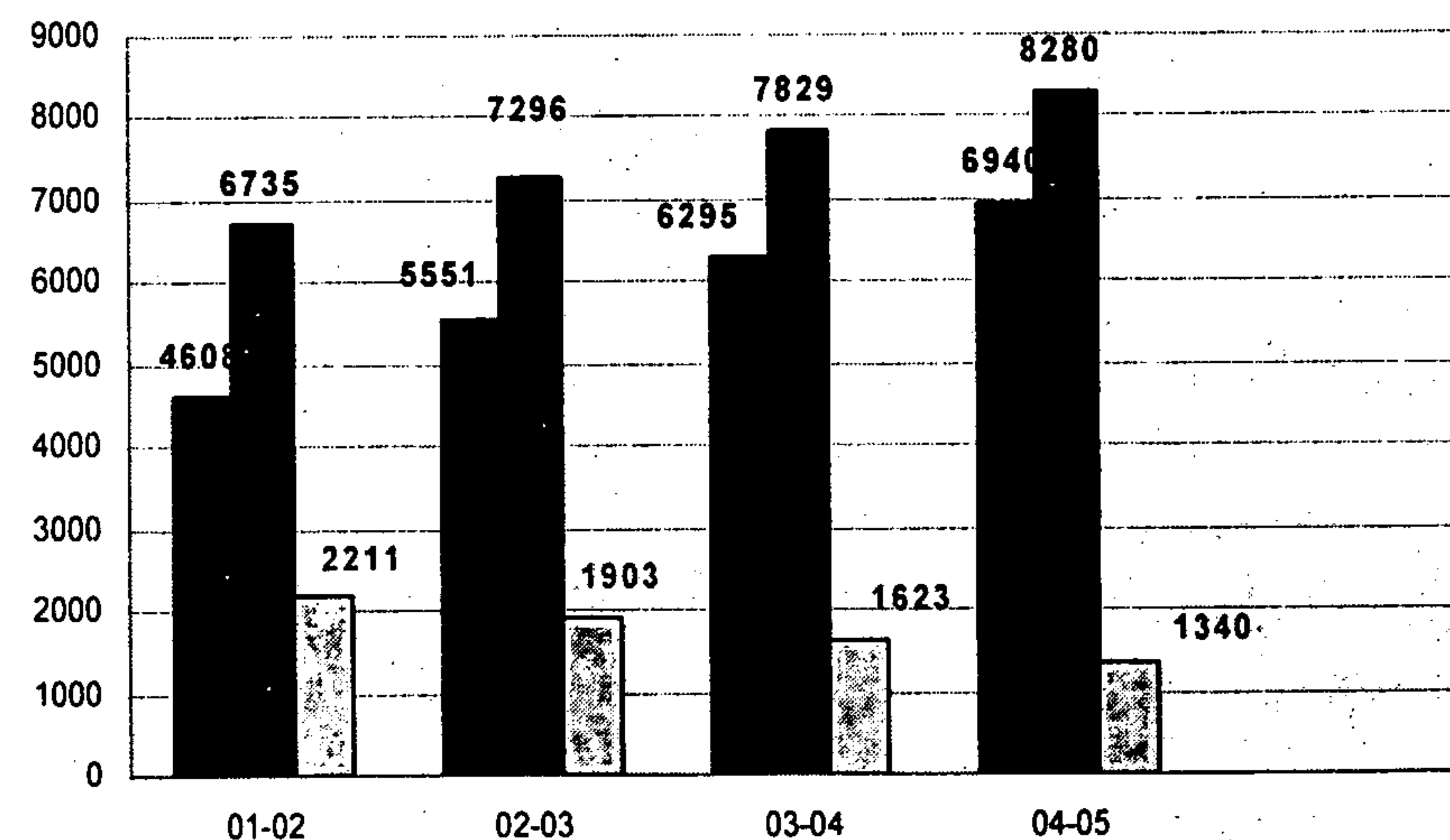
COMMERCIAL PERFORMANCE

FINANCIAL PERFORMANCE

COMMERCIAL (PAISE/UNIT)



FINANCIAL (RS IN CRORES)



YEAR	01-02	02-03	03-04	04-05
AVG COST OF POWER IN PAISE	366	374	367	355
AVG REALISATION COST IN PAISE	238	264	284	289

YEAR	01-02	02-03	03-04	04-05
INCOME	4608	5551	6295	6940
EXPENDITURE	6735	7296	7829	8280
SUBSIDY	2211	1903	1623	1340

Transmission & Distribution Loss

(in %)

Year	Estimated	Allowed by KERC	Actuals
1997-98	-	-	18.56
1998-99	-	-	30.19
99-2000	38.16	-	38.02
2000-01	36.50	31.00	35.50
2001-02	34.10	31.00	35.86
2002-03	32.00	28.00	31.95
2003-04	30.62	28.00	30.88
2004-05	29.27	-	29.52
2005-06	27.90	25.93	

Aggregate Technical & Comml. Loss (AT&C)

		2004-05
Energy Purchased (availability)	MUs	33110
T&D Loss	MUs	9774
Sales	MUs	23336
Demand (as per Accounts)	Rs. Crs.	6940
Collection	Rs. Crs.	6322
Units billed but not collected	MUs	2077
Total AT&C Loss	MUs	11851
% of AT&C Loss	%	35.79

** - Includes Rs. 595 Crs. released by GOK towards RDPR & UDD dues. If this amount is excluded, AT&C Loss would be 41.84 %*

KPTCL

Financials

Energy Purchase and Sales by KPTCL

Rs. Crs.

Particulars	2002-03	2003-04	2004-05
	Actuals	Actuals	Actuals
Energy Purchase (MUs)	29279	31210	33110
Transmission Loss (MUs)	2013	1519	1383
Transmission Loss (%)	6.88	4.87	4.18
Bulk Energy Sales (to ESCOMs & Hukkeri Society + Aux. Con.)	27266	29691	31727

KPTCL's PROFIT AND LOSS ACCOUNT

Rs. Crs.

Particulars	2003-04	2004-05
INCOME		
Revenue from sale of power	6449	6615
Other Income	117	160
Total Income	6566	6775
EXPENDITURE		
Power Purchase Cost	6025	6014
Employee Cost	137	145
O&M Expenses	49	56
Interest	287	251
Depreciation and Others	104	200
ROE	60	
Total Expenditure	6662	6666
Surplus(+)/ Deficit (-)	-96	109
Subsidy	96	

KPTCL's BALANCE SHEET

Rs. Crs.

Particulars	As @ 31.3.-04	As @ 31.3.-05
SOURCES OF FUNDS		
Share Capital (incl. Sh. Deposit)	733	683
Reserves and Surplus	98	214
Secured Loans	3345	3014
Unsecured Loans	376	643
Other Funds	45	42
Total	4596	4597
APPLICATION OF FUNDS		
Gross Block of Fixed Assets	3124	3514
Accumulated Depreciation	-1053	-1251
Net Block of Fixed Assets	2071	2263
Capital Work in Progress	458	427
Net Current Assets	2068	1906
Total	4596	4597

KPTCL's CASH FLOW - 2004-05

Particulars	Rs. Crs.
Opening Balance	77.37
Receipts	
Collections at KPTCL from ESCOMS	5594.65
Other Receipts	322
Support from GoK (Subsidy+Pension)	1049
Borrowings	1582.87
Total of Op. Bal. and Receipts	8625.89
Payments :	
Power Purchase	5469.99
Establishment Exp. (incl. Pension etc.,)	128.32
Admn. & Gen. and O&M Expenses	82.00
Debt Servicing	1962.52
Capital Expenditure	708.91
Payments made to P&G Trust	214.81
Total Payments	8566.55
Closing Balance	59.34

KPTCL's Key Financial Information

(Rs. in Crs)

SL. NO	PARTICULARS	2003-04	2004-05
1	Long term Loans (Secured & unsecured)-Debt	952	1283
2	Share (Share Capital & Share Deposits)- Equity	733	683
3	Capital Expenditure Incurred	513	475
4	Closing stock	80	59
5	Net Fixed Assets	2071	2263
6	Capital employed=(Fixed Assets+ Working Capital)	4596	4591
7	Net Profit	52	109
8	Revenue from sale of power	6449	6615
9	Current Assets (CA)	6344	6155
10	Current Liabilities (CL)	4278	4254

Key Ratios of KPTCL's Financials

Sl. No.	Particulars	2003-04	2004-2005	Remarks
1	Current Ratio = CA / CL	1.48 : 1	1.45 : 1	Recommended 2:1
2	Debt Equity Ratio = Total Loans / Share capital (excl. Reserves)	2.69 : 1	2.98 : 1	Recommended 1:1
3	Stock Turnover Ratio = Avg. Monthly Capital Expenditure / Closing Stock	1 : 51 months cap. exp.	1.87 months cap. exp.	
4	Net profit to Revenue = Net profit/ Revenue from Sale of Power	1.64 %	0.81 %	
5	Return on Capital Employed (RPCE) = Net Profit / Capital Employed	2.37 %	1.14 %	Cap. Emp. = NFA + CWIP + Net CA

KPTCL's

BUDGET

Revenue Budget - 2005-06

Rs. in Crs.

Nature of Expenditure	Filed in ERC FY 06	KERC Approved	Budget Approved & allocated by the Board	Exp. up to Sept. '05 (as per Cash flow)	%age of Exp. incurred w.r.t Budget
Repairs & Maintenance	32	32	28.23	32.47	45.13%
Admn. & Gen.Exp	48	42	43.72		
Employee Cost	183	181	171.11	69.25	40.47%
Interest & Fin. Charges	457*	203**	189.59	68.70	36.24%
Total	721	459	434.65	170.42	39.21%

Note : (1) PP Cost, Depreciation and ROE items are not shown in the above statement.

(2) * includes Interest on PP Dues ** excludes Interest on PP Dues

CAPITAL BUDGET FOR 2005-06 - KPTCL

Name of the Zone	No of Works as per APW	Source-wise Budget Allocated as per Annual Program of Works (APW)						Expenditure booked upto the end of 31-08-2005	Actual Expenditure % w.r.t. Budget	Balance of Budgeted amount
		Plan(funds to be tied up)	Other FI(funds to be tied up)	PFC	REC	HUDCO	Total			
Bangalore	322	185	17698	7534	975	5522	31914	4370	14	27544
Mysore	181	0	9250	10866	50	3609	23775	4111	17	19664
Bagal. kot	114	85	4815	3055	3396	211	11562	2048	18	9514
Gulbarga	90	10	5409	1305	460	2285	9469	1235	13	8234
Total	707	280	37172	22760	4881	11627	76720	11764	15	64956

Capex towards General Works and Contingencies

13280

Total Capital Budget of KPTCL for the year

90000

Capital Budget – 2006-07

Proposed Sub-stations, augmentation and Transmission Lines

- **400 KV Stations and Augmentation**
 - Torangallu and Narendra
- **Transmission Lines :**
 - 220 KV D/C line – Hiriya to Gowribidanur
 - 220 KV D/C line – Narendra to Mahalingpur
 - 220 KV D/C line – Bastipura to Kadakola
 - 220 KV D/C line – Talaka to Kuduthini
 - 220 KV D/C line – Nelamangala to Peenya
 - 220 KV Outer Ring around Bangalore
 - 220 KV D/C Line – Hoody and HAL
 - Interlinking 220 KV Stations of A-Station, East Dvn. compound and NIMHANS with 200 KV cable

Capital Budget – 2006-07

- Sub-stations :**

- 400 KV - 2 Nos. 220 KV - 10 Nos.
- 110 KV - 65 Nos. 66 KV - 79 Nos.

- Budget Required :**

Rs. Crs.

Transmission lines and Sub-stations 66 KV and above	2453
Replacement and retrofitting of old / faulty switchgears..	15
Providing / Replacing EHV Breakers, Relays, CTs, PTcs, etc	38
Replacement of faulty Power transformers	15
Load Dispatch and Communication	100
Civil Engineering Works	15
Other Works	64
Total budget requirement	2700

ESCOMs'

Profile

ESCOMs at a Glance (FY 2004-05 Figures)

Item	BESCOM	MESCOM	HESCOM	GESCOM	TOTAL
No. of Consumers	5215836	3119610	2770422	1834227	12976095
Energy Input (MUs)	14697	5992	6214	4657	31560
Energy Sold (MUs)	11045	4705	4505	2915	23170
Distribution Loss (%)	24.85	21.48	27.50	37.41	26.59
Revenue (Rs. Crs.)	3656	1446	948	692	6742
Expenditure (Rs. Crs.)	3575	1699	1768	1166	8208
Surplus (+) Deficit (-) (Rs.Crs) (excl. ROR of Rs. 104 Crs.)	81	-253	-820	-474	-1236
Avg. Cost (Ps / unit)	330.99	364.90	394.33	398.77	358.72*
ARR (Ps / unit)	329.91	306.06	208.84	235.83	289.17
Colln. Eff. (%) (as per DCB)	92.93	92.62	78.72	81.30	89.94
A T & C Loss (%)	28.62	28.18	42.17	47.05	35.79

** Avg. Cost under Total Column differs with Sector figure due to diff. in inter-company transactions and impact of sales to Hukkeri Society*

Loan Details

Status of Loans – KPTCL

Rs. in Crs.

Nature of loan	Op. Bal as on 1 st April 2005	Receipts from Apr. to Nov. 05	Payments from Apr. to Nov..05			Cl. Ba. as on 31st Nov.2005
			Principal	Interest	Total	
Long Term	1283	81	71	68	139	1293
Short Term	754	290	471	21	492	573
TOTAL	2037	371	542	89	631	1866

SECTOR LOANS

(Rs. Crs.)

Name of the Company	Op. Bal. as on 1st Apr.05	Receipts from Apr. to Nov.05	Payments from Apr. to Nov.05			Cl. Bal. as on 30th Nov.05
			Principal	Interest	Total	
GOK	582	0	85	48	134	497
KPTCL	1283	81	71	68	139	1293
BESCOM	305	15	4	12	16	316
MESCOM	260	1	12	11	23	249
HESCOM	383	8	7	15	22	384
GESCOM	90	0	3	4	7	87
Total	2904	106	183	158	340	2827
Short Term Loans (KPTCL only)	754	290	471	21	492	573
Total Loans of KPTCL						1866

Subsidy Status

Dues from GoK and Issues Pending

- Dues from GoK
 - Subsidy (as on 31.3.05) : Rs.2014.66 Crs.
 - Other Amounts (as on 31.3.05) : Rs.2620 Crs.*
- Debt Servicing
- Waiver Amounts
- Arrears of Local Bodies
- Support towards energisation of Pump Sets and providing infrastructure for regularised Pump Sets
- Equity to CHESCORP – Rs. 100 Crs.
- Exemption from KTPP to procure Dist. Transformer from M/s KAVIKA
- Increasing limit for procurement under KTPP from Rs.1 Lakh to Rs.5 Lakh
- Exempting KPTCL/ESCOMs from Sp. Entry Tax
- Reduction of VAT on certain goods

* Details available in next slide

Other Amounts Due from GoK as on 1-4-2005

Rs. in Crs.

	Amount
Debt Servicing done on behalf of GoK by KPTCL	487.43
Pension payments	127.76
IP Set Tariff Subsidy	178.50
IP set dues waiver (as on 31.03.03)	855.12
Subsidy towards P/S to Hukkeri society	30.93
Dues of Urban & Rural local bodies	609.26
Waiver of BJ / KJ Dues (21-02-2004)	157.21
Support for providing infrastructure to regularised IP Sets	173.66
Total amounts due	2619.87

Total Amount Due from GoK as on 01-04-2005

Rs. Crs.

	Subsidy	Others	Total
Subsidy dues	2014.66		2014.66
Debt Servicing done on behalf of GoK by KPTCL		487.43	487.43
Pension payments		127.76	127.76
IP Set Tariff Subsidy		178.50	178.50
IP set dues waiver (as on 31.03.03)		855.12	855.12
Subsidy towards P/S to Hukkeri society		30.93	30.93
Dues of Urban & Rural local bodies		609.26	609.26
Waiver of BJ / KJ Dues (21-02-2004)		157.21	157.21
Support for providing infrastructure to regularised IP Sets		173.66	173.66
Total amounts due	2014.66	2619.87	4634.53

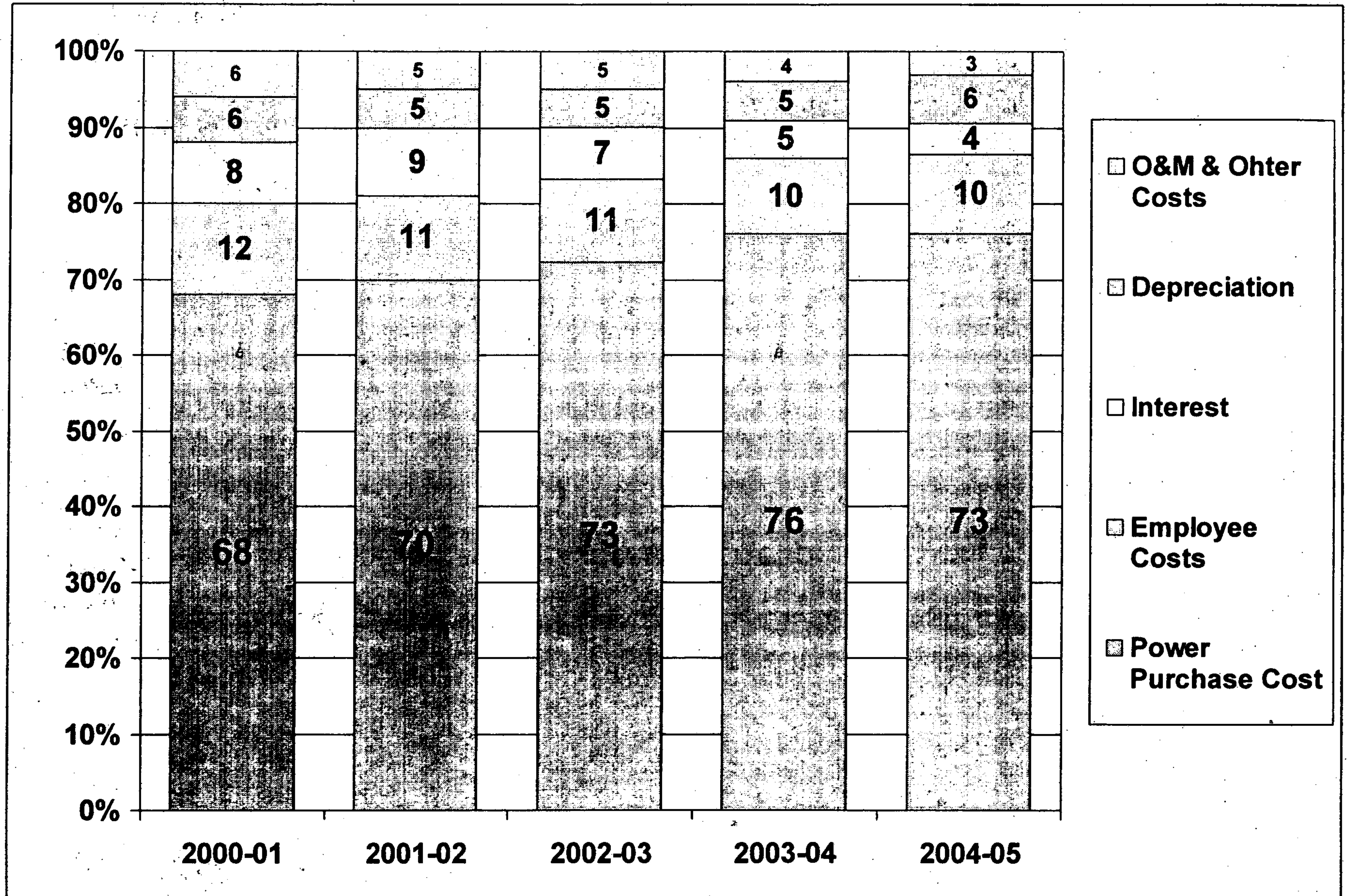
How we Earn and Spend *(Sector)*

How we spent ?- Sector as a whole

Rs. in Crs.

Expense	FY 2001		FY 2002		FY 2003		FY 2004		FY 2005	
	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%
(as per Accounts)										
Power Purchase	3,761	68	4,787	70	5,393	72	6,025	76	6,014	73
Establishment	708	13	731	11	818	11	809	10	818	10
O & M Expenses	167	3	197	3	181	2	203	3	252	3
Interest (-cap)	404	7	588	9	490	7	372	5	365	4
Depreciation	320	6	350	5	355	5	417	5	481	6
Others+ROR	185	3	165	2	252	3	92	1	350	4
Total Cost	5,545	100	6,818	100	7,489	100	7,918	100	8,280	100

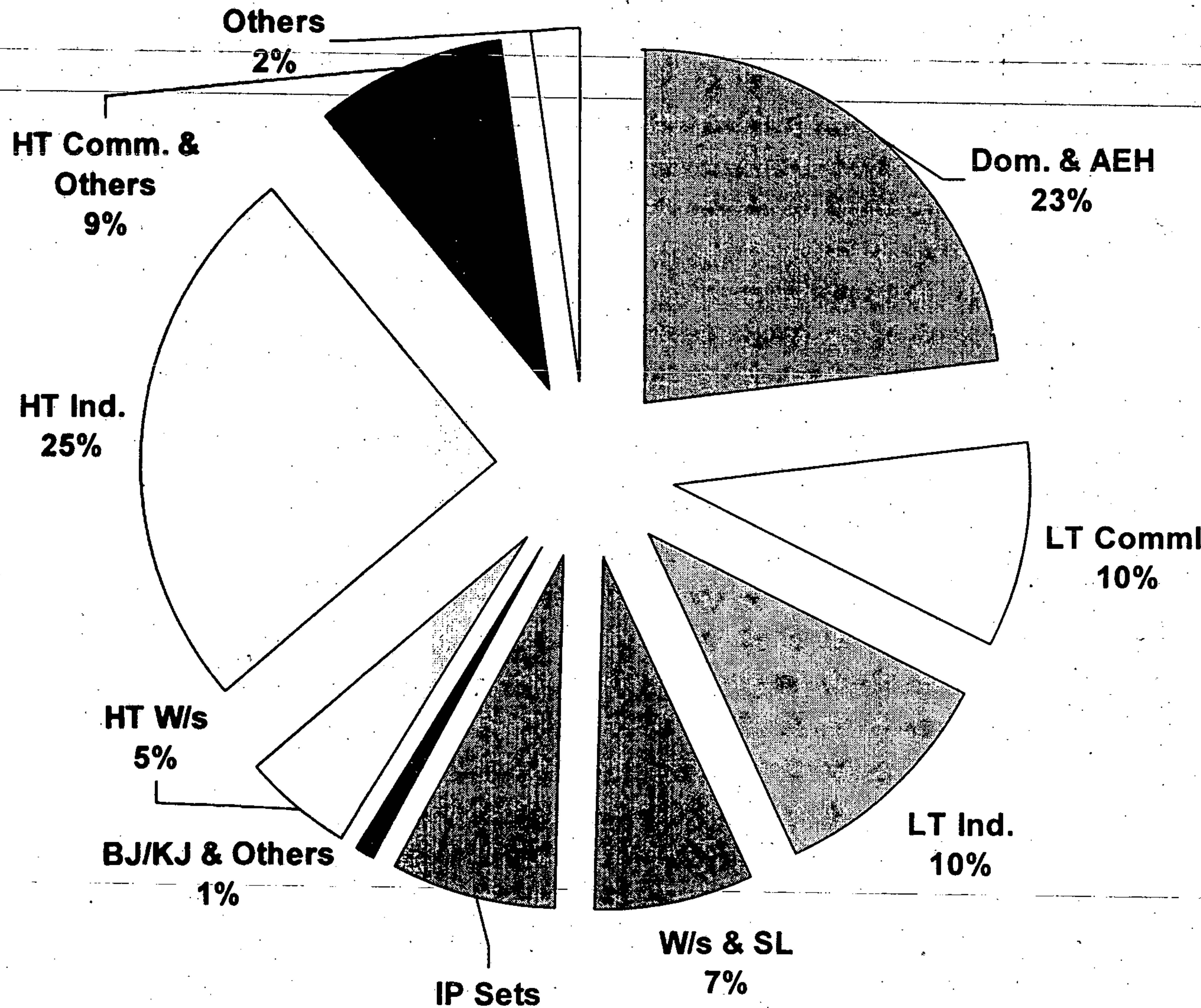
How we spent in last 5 Years ?- Sector



Where a Rupee comes from ?-SECTOR

REVENUE FROM CATEGORY-WISE CONSUMERS ONLY

In 2004-05

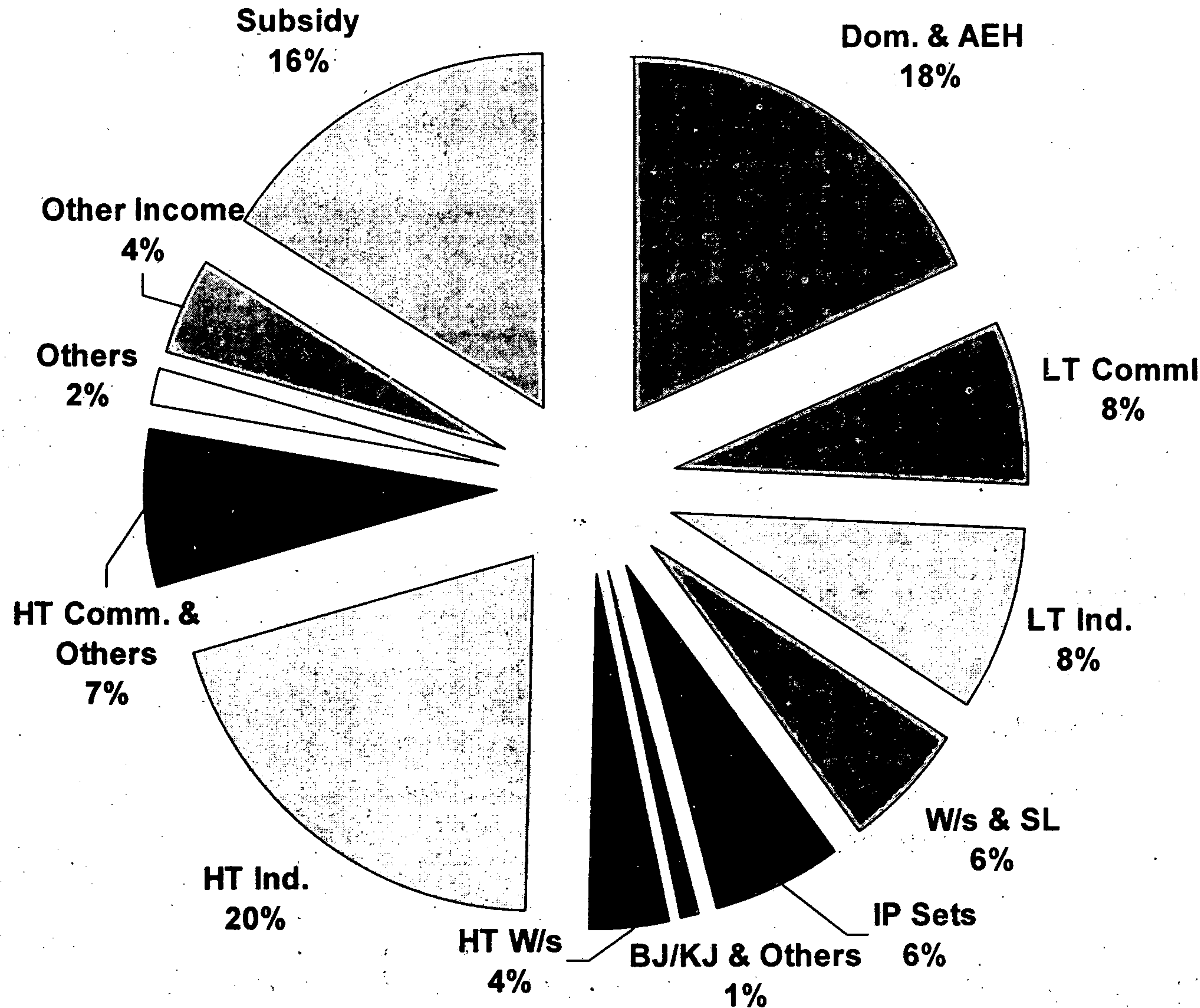


Category	Rev. (Rs. Cr.)
Dom. & AEH	1512
LT Comml.	631
LT Ind.	678
W/s & SL	482
IP Sets	500
BJ /KJ & Others	58
HT W/s	313
HT Ind.	1680
HT Coml.	581
Others	138
Total	6572

Where a Rupee comes from ?-SECTOR

With Subsidy, ROR and Non-Tariff Income

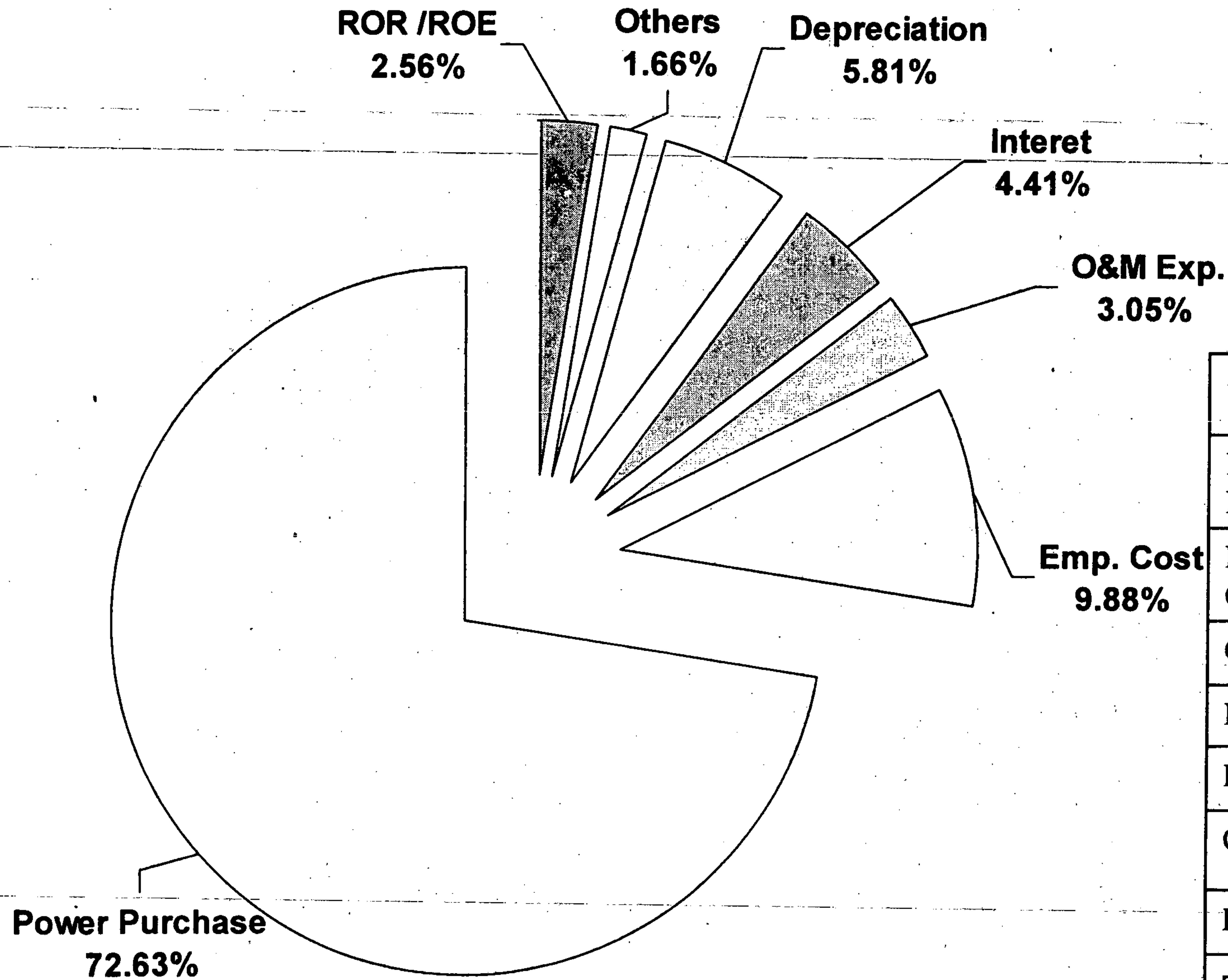
In 2004-05



Category	Rev. (Rs. Cr.)
Dom. & AEH	1512
LT Comml.	631
LT Ind.	678
W/s & SL	482
IP Sets	500
BJ /KJ & Others	58
HT W/s	313
HT Ind.	1680
HT Coml.	581
Others	138
Other Inc.	367
Subsidy	1340
Total	8280

Where a Rupee Goes ?-SECTOR

198



In 2004-05

Exp. Item	(Rs. Cr.)
Power Purchase	6014
Employee Cost	818
O&M Exp.	252
Interest	365
Depreciation	481
Others	137
ROR/ROE	212
TOTAL	8280

Collection Efficiency of ESCOMs – 2004-05

Category	Demand	Collection	Collection Efficiency
	Rs. Crs.		%
Bhagyajyothi / Kuteerajyothi	69	7	9.45
Domestic and AEH	1558	1507	96.72
Commercial and Industrial	3557	3559	100.06
IP Sets	521	49	9.48
Water Supply & Street Lights	823	737*	89.54
Others	135	134	99.79
Total	6663	5993	89.94

* includes Rs.595 Crs. released by GoK

Power Purchase Data

Power Purchase Data

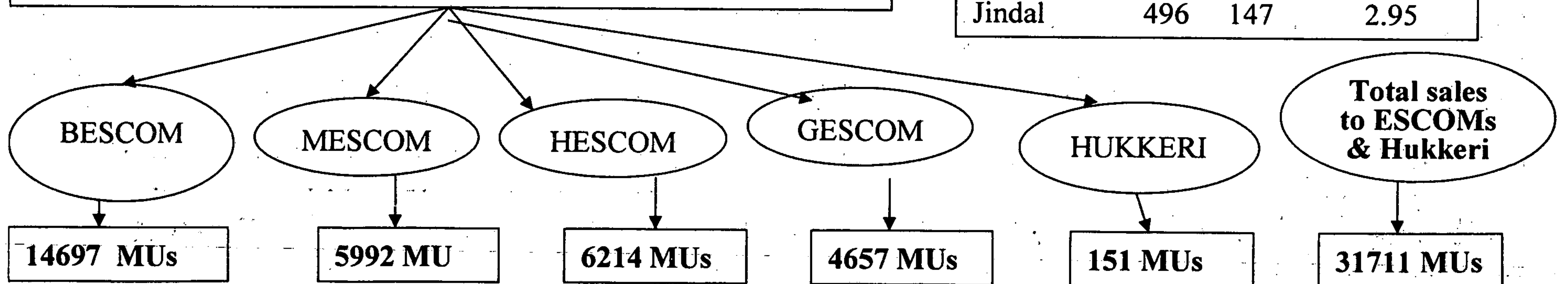
ENERGY AND COST	2001-02	2002-03	2003-04	2004-05
Energy Purchases (in MUs)	(Actuals)	(Actuals)	(Actuals)	(Actuals)
Hydel (KPC+VVNL)	9304	6912	7222	8659
Thermal	<u>19757</u>	<u>22367</u>	<u>23988</u>	<u>24451</u>
Total	29061	29279	31210	33110
Hydro-Thermal Mix (in%)	32:68	24:76	23:77	26:74
Daily Consumption (MUs / day)	79.62	80.22	85.27	90.82
Cost (Rs. in Crs.)				
Hydel	419	319	327	425
Thermal	<u>4367</u>	<u>5074</u>	<u>5699</u>	<u>5588</u>
Total	4786	4393	6026	6013
Avg. Cost (Rs. per Unit)				
Hydel	0.46	0.48	0.47	0.52
Thermal	2.19	2.24	2.34	2.24
Total	1.64	1.84	1.93	1.81

Power Purchased & Sales – 2004-05

K P C				CGS (NTPC, NLC, MAPS, Kaiga)		VVNL		Co-gen, Mini- Hydel & Others	
	Energy (MUs)	Cost (Rs.Crs.)	Avg. Cost (Rs. / Unit)	Energy	Cost	Energy	Cost	Energy	Cost
Hydel	8138	425	0.52	8952 MUs	Rs.1441 Crs.	783 MUs	Rs.159 Crs.	4019 MUs	Rs.975 Crs.
Thermal	9813	2162	2.20	Avg. Cost Rs.1.27 /Unit		Avg. Cost Rs.2.03/Unit		A.Cost Rs.2.43/Unit	

Karnataka Power Transmission Corporation (KPTCL)
Total Energy Purchased : 33110 MUs
Total Cost : Rs.6013 Crs.
 Interest on Power Purchase dues : Rs Crs.
Average Cost of Power Purchase : Rs.1.82 per unit
Hydro-Thermal Mix : Hydel 25 % Thermal 75%)

IPPs (Major)			
	Energy (MUs)	Cost (Rs.Crs.)	Avg. Cost (Rs. / Unit)
R. Seema	40	36	8.94
TATA	237	147	6.19
TBP	630	520	8.26
Jindal	496	147	2.95



Total sales by ESCOMs to consumers-23174 MUs

Total Metered Sales 13304 MUs

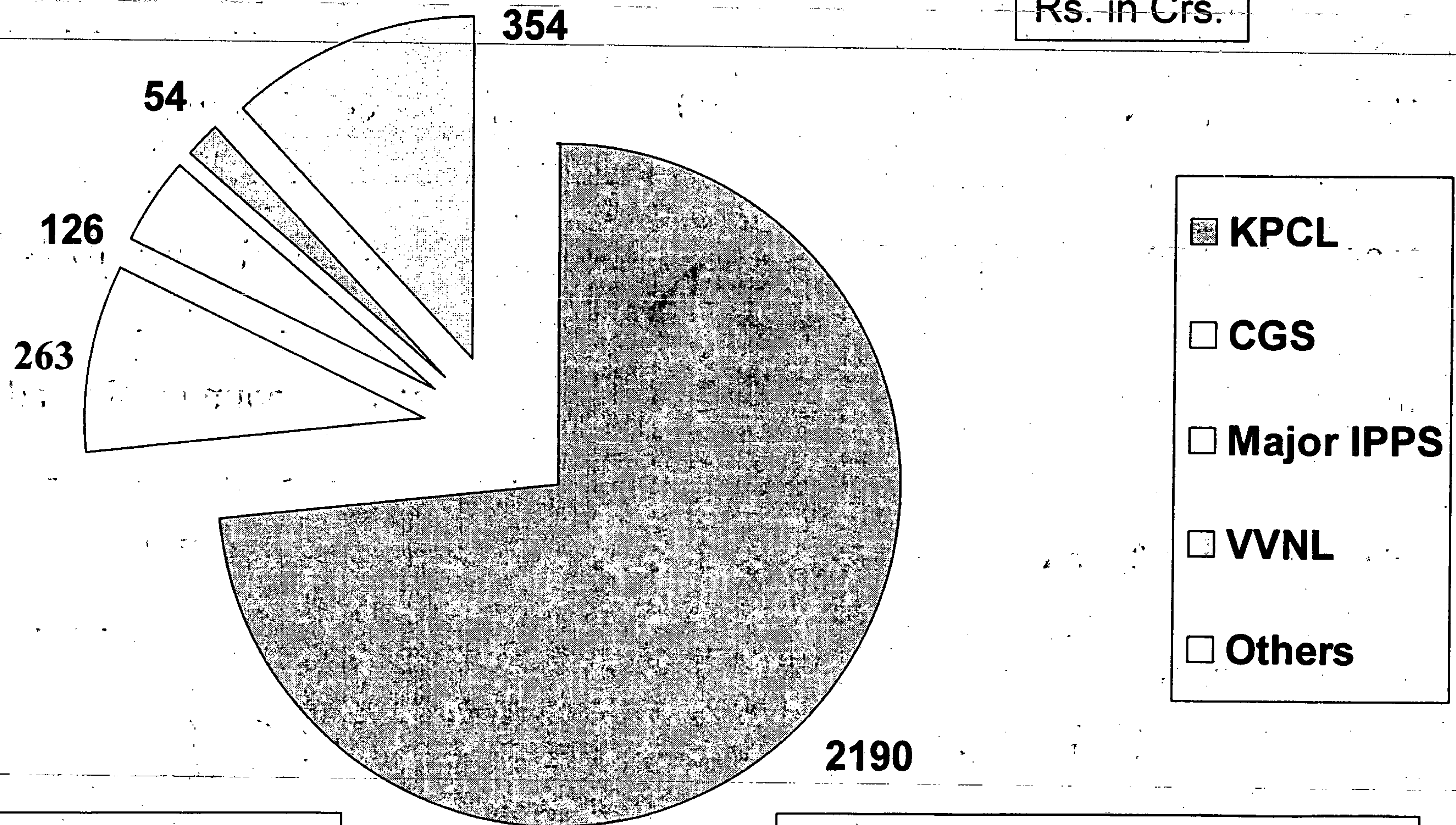
Power Purchase Payments

Rs. in Crs.

Particulars	2001-02	2002-03	2003-04	2004-05
Opening Balance of dues	1575	2265	2008	2559
Demand (due for the year)	4785	5393	6024	6013
Total of OB + Demand	6360	7658	8032	8572
Payments	4095	5650	5473	5586
Closing Balance of dues	2265	2008	2559	2986

DUES TO POWER SUPPLIERS

Rs. in Crs.

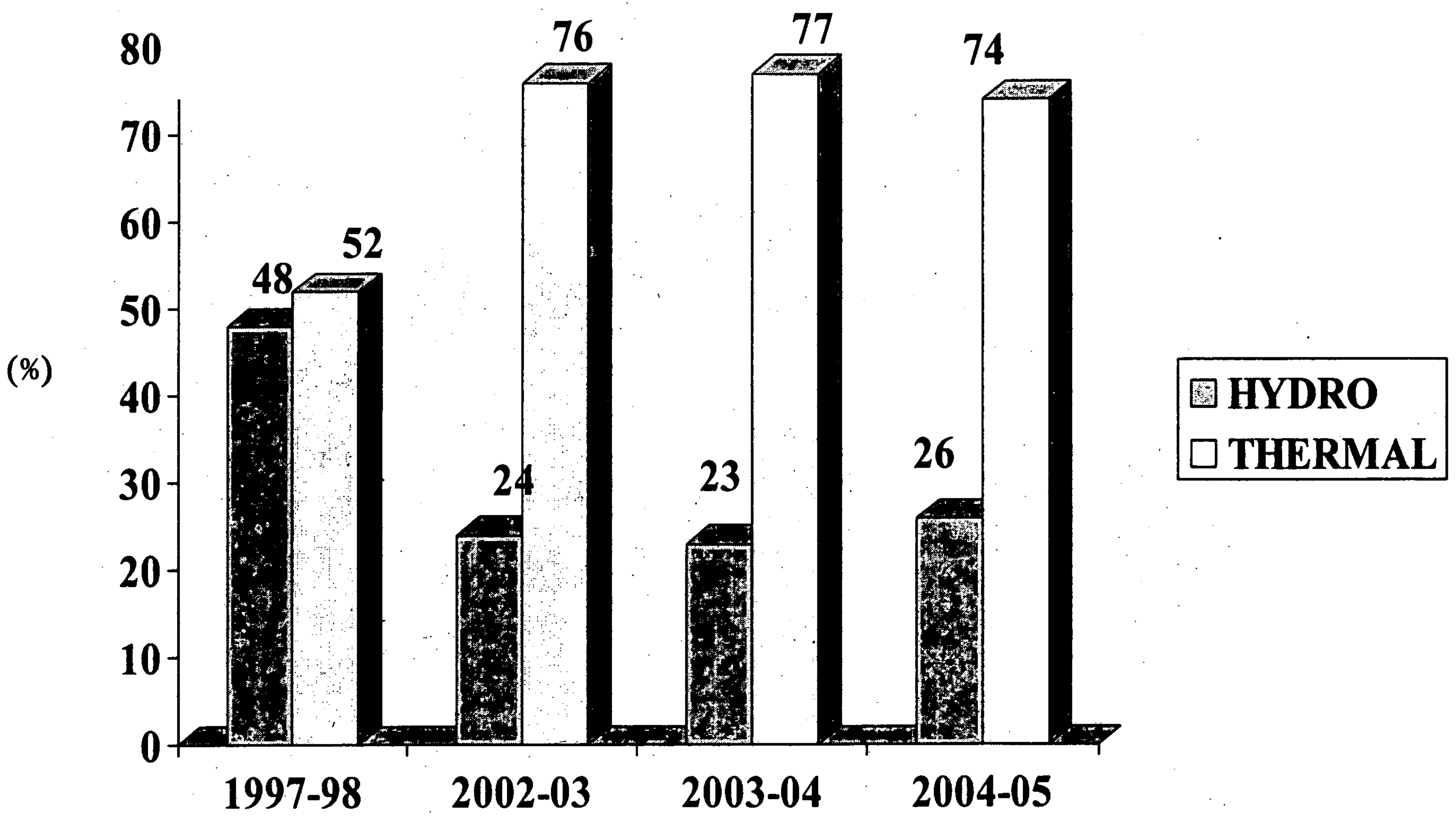


- KPCL
- CGS
- Major IPPS
- VVNL
- Others

As on 31.3.2005

Total Dues : Rs.2987 Crs.

Hydro - Thermal Mix

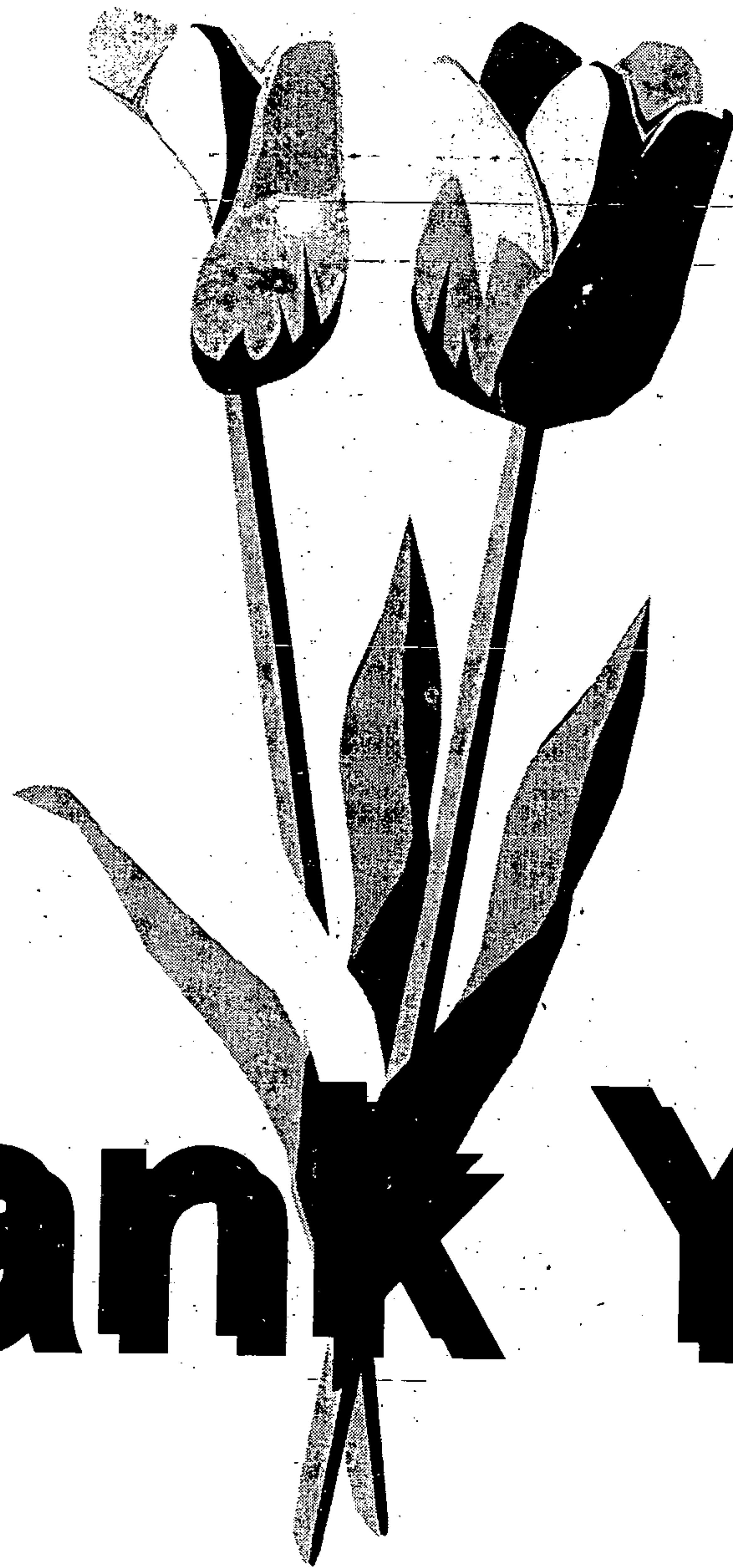


Energy Billing Center (EBC) Issues

Energy Billing Center (EBC) - DCB

2004-05

Company	Energy (MUs)	Demand (Rs. in Crs.)			Subsidy	Collection (Rs.in Cr.)	Closing Balance (Rs. in Cr)
		BSC	TC	Total	Amt (Rs. Cr)		
BESCOM	14697	2840	199	3039		3261	332
MESCOM	5992	1176	81	1257	175	1388	176
HESCOM	6214	1220	84	1304	452	1179	618
GESCOM	4657	914	63	977	308	852	435
Total	31560	6150	427	6577	935	6680	1562



Thank You

**Write-up/
Study Material
on
Basic Concepts of
Finance & Accounts**

**Prepared & Compiled by :
O/o FA (A&R), KPTCL**

March, 2006

A C C O U N T S

1. ACCOUNTING PRINCIPLES

Following are the main Accounting Policies that have to be followed by an Organisation for preparation of its Annual Accounts..

a. Business Entity Concept :

Every business undertaking, whether it is a sole-trading concern or a partnership firm or a joint stock company, is considered as a distinct entity from the persons who own it. As the business and the proprietors, who own the business are regarded as two separate entities, the transactions of the business are distinguished from those of the proprietors, and in the books of the business, accounts are kept only for the transactions of the business, and not for those of the proprietors.

b. Historical Cost Concept :

All Transactions are recorded in the books of Accounts at the value at which transaction took place. No revaluation of assets or liabilities is allowed in the subsequent years.

c. Going Concern Concept :

The policy lays down that Financial Statements of an enterprise shall be drawn upon the premise that its business will continue indefinitely (i.e, a concern that will continue to operate for a fairly long time)

d. Consistency Concept :

According to this concept, the accounting Policies and Practices should be applied consistently from one accounting year to another accounting year. The idea behind the convention of consistency is that, unless the same accounting practices and methods are followed from year to year, comparison

of the accounting figures of one year with those of another year would be difficult and consequently, drawing of conclusions about the performance of the concern over a number of years becomes difficult.

e. True & Fair Presentation :

Accounts of an enterprise should depict True and Fair picture of the Financial position of the Company. For this, explanation may be provided to the points where ever ambiguity lies in the form of notes. True and fair view implies disclosure of all information necessary for a reader's understanding of the financial position (Balance Sheet) results of the operations (Profit and Loss Account) of the Company.

f. No Retrospective adjustments :

All Prior Period Revenue or Costs arising on account of difference between accrual and actual values shall be accounted prospectively and no retrospective restating of past year's figures shall be permitted. The Income and Expenses relating to prior period shall be depicted separately in the Annual accounts.

g. Offsetting of Assets and Liabilities :

In the Balance Sheet of an enterprise, the assets and liabilities shall be set off against each other only when a legal right of offset exists. Payables to one party shall therefore not be set off against receivables from the same party unless the Company has a legal right to offset the two.

2. ACCOUNTING RULES (Golden Rules of Accounting) :

The business activities in an organisation is called 'Transaction'. In Double Entry System, any such transaction has two aspect viz., DEBIT and CREDIT. The Accounts are classified into three categories ie., (1) Personal Accounts, (2) Real, Asset or Property Accounts and (3) Nominal or Fictitious Accounts. The rule for debiting or crediting under each category of account is explained below :

a. Personal Accounts :

Personal Accounts are accounts of persons with whom a concern carries on business. Personal Accounts may be Account of natural or physical persons, Accounts of artificial or legal persons (like accounts of partnership firms, companies, clubs, associations, banks, Government institutions, schools and colleges).

b. Real Accounts :

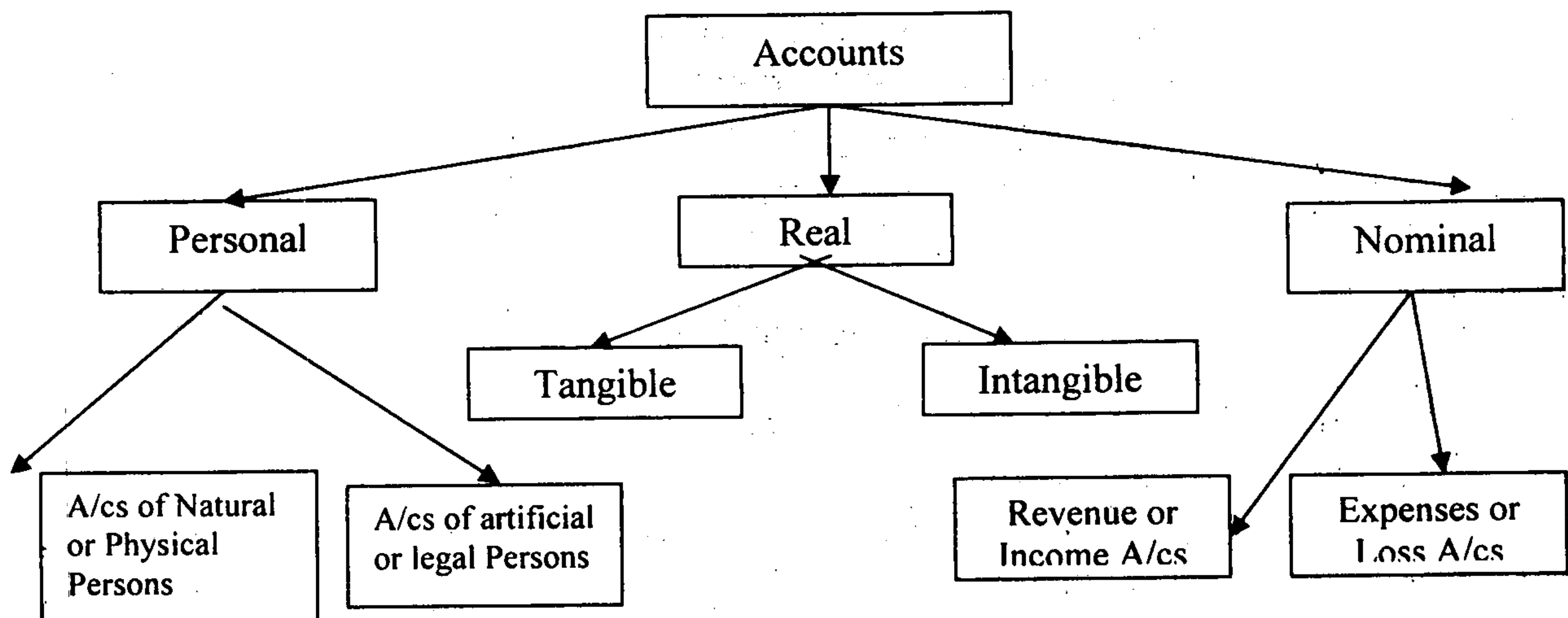
Real Accounts are accounts of properties, assets or things owned by the concern and with which the business is carried on. Real assets are further classified into two viz., **Tangible and Intangible Assets**

Tangible Assets : The assets having physical presence are classified as Tangible assets. For eg., Goods account, Cash account, Furniture account etc.,

Intangible Assets : Assets which do not have physical existence are classified as Intangible assets. For eg., goodwill account, patent rights account, copy right account etc.,

c. Nominal or Fictitious Accounts :

Nominal accounts are accounts of the expenses and losses which a concern incurs, and incomes and gains which a concern earns in the course of its business. The above classification of accounts can be pictorially represented as follows :



Accounting Rules :

Nature of Account	DEBIT	CREDIT
Real Account	What comes in	What goes out
Personal Account	Receiver	Giver
Nominal Account	Expenses and Losses	Income and Gains

3. FINANCIAL STATEMENTS :

Following are the three main Financial Statements depicted in the Annual Accounts of a Company :

- i. Profit and Loss Account
- ii. Balance Sheet
- iii. Cashflow Statement

a. Profit and Loss Account :

In Profit and Loss Account the Revenue Income and Revenue Expenditure of a Company is recorded to arrive Profit or Loss of the Company during a specified period. Income and Expenditure Account prepared by non-trading organisations is similar to the P&L Account. Profit and Loss Account of KPTCL has 16 Schedules starting from Schedule 16 to 32 (excluding Schedule 30). The number of schedules may increase depending on the extent of disclosure the Company desires to make. The Name of the schedule, and the nature of Balance that it should indicate is as follows :

Schedule No.	Description	Nature of Account	Nature of Balance
16	Revenue from Sale of Power	Income	Credit
17	Revenue Subsidies & Grants	Income	Credit
18	Other Income	Income	Credit
19	Purchase of Power	Expenditure	Debit
20	Repairs and Maintenance	Expenditure	Debit
21	Employee Costs	Expenditure	Debit
22	Administration & General Expenses	Expenditure	Debit
23	Other Expenses	Expenditure	Debit
24	Expenses Capitalised	Expenditure	Debit
25	Depreciation	Expenditure	Debit
26	Interest and Bank Charges (Net)	Expenditure	Debit
27	Provision for Taxation	Expenditure	Debit
28	Extra Ordinary items	Expenditure	Debit

29	Prior period credits / (Charges)	Expenditure/ Income	Debit / Credit
31	Generation of Power	Expenditure	Debit
32	Accounting Policies and Notes to Accounts		

b. Balance Sheet :

Balance Sheet of a Company contains the details of Assets and Liabilities as on particular date. It is also called as Sources and Application of Funds. While the liabilities are the sources, the application is on assets. The liabilities mainly comprise of Capital (Equity and other Share Capital) and Borrowed amount (Long Term Debt and other liabilities). The assets comprise of fixed assets and current assets. The financial position of a Company is evaluated based on the Balance Sheet figures. The Balance Sheet of KPTCL has 17 schedules starting from Schedule 1 to 15 and schedule 30. (number of schedules may increase depending on the disclosure made by a company). The Schedules to the Balance Sheet of KPTCL, the nature of Schedule and the balance each Schedule depicts is tabulated as under :

Schedule No.	Description	Nature of Account	Nature of Balance
1	Share Capital (Schedule 1A represents Share Deposit)	Liability	Credit
2	Reserves and Surplus	Liability	Credit
3	Secured Loans	Liability	Credit
4	Unsecured Loans	Liability	Credit
5	Deposit Contribution Works and Security Deposits	Liability	Credit
6	Fixed Assets and Accumulated Depreciation (which is deducted to arrive at Net Fixed Assets)	Asset	Debit
7	Capital Works in Progress	Asset	Debit
8	Investments	Asset	Debit
9	Interest Accrued on Investments and Deposits	Asset	Debit
10	Stores and Spares	Asset	Debit
11	Sundry Debtors	Asset	Debit
12	Cash and Bank Balances	Asset	Debit
13	Loans and Advances	Asset	Debit
14	Others Assets	Asset	Debit
15	Current Liabilities and Provisions	Liability	Credit
30	Deferred Revenue Expenditure	Asset	Debit

c. Cash flow Statement :

A Cash flow statement is a statement which explains the sources of cash inflows and cash outflows. It depicts change in cash position from one period to another. It represents liquidity position of a Company by indicating the income streams and the requirement of cash for meeting expenses. While P&L Account is casted on accrual basis, Cash flow statement captures only the items involving cash inflow and outflow. The cash flow is one of the important statement particularly when there is significant difference between transactions recorded on accrual basis and their actual impact on cash flows. Further, the extent of internal resources generation and its adequacy to meet the debt repayment obligation and sourcing capital program is known by preparing Cash flow statement only. For calculating Debt Service Coverage Ratio (DSCR) also cash flow statement is necessary. A company may be earning good book profit on accrual basis but the revenue income not actually realised and expenditure not actually spent would reveal entirely a different performance status which can be known only by preparing cash flow statement.

The above explanation given in respect of cash flow statement relates to financial statement prepared at the end of a specified period. However, for daily cash management, KPTCL and ESCOMs are preparing daily cash flow statement which serves the purpose of ascertaining the cash inflow position and enables taking decision as to arranging payments on revenue and capital account.

ACCOUNTING STANDARDS:

What is an Accounting Standard

An Accounting Standard is a standardized specific Procedure, Policy, Principle and Practice to be generally followed in accounting the transactions of a Business and keeping the Books of Accounts by any Establishment to which the standards are applicable.

Who Issues the Accounting Standards

The Institute of Chartered Accountants of India (ICAI), recognizing the need to harmonize the diverse accounting policies and practices used in India, constituted an Accounting Standards Board (ASB) on 21st April, 1977. ASB is vested with the powers of formulating and issuing Accounting Standards and reviewing the same at regular intervals. Council of ICAI evolves and establishes AS

To Whom the Accounting Standard Applies

Enterprises are classified into three categories, namely Level I, Level II and Level III.

Level II & Level III enterprises are considered as Small and Medium Sized Enterprises. (SME)

Level I Enterprises are required to comply with all Accounting Standards (mandatory).

Some Accounting Standards are not applicable to Level II and level III categories.

Procedure for Issuing Accounting Standards

- Selection of areas in which AS need to be formulated
- Preparation of Accounting Standards
- Dialogue with Government PSU, Industry and Professional bodies.
- Exposure Draft
- Finalisation of Exposure Draft (after comments)
- Issue of Accounting Standards

Contents of Accounting Standards

- A statement of concepts and fundamental accounting principles relating to the standard.
- Definitions of the terms used in standards.
- Explanation for application of accounting principles.
- Presentation and disclosure requirements.
- Application of Accounting Standards- Class of enterprises
- Effective date.

List of Accounting Standards

1. Disclosure of Accounting Policies
2. Valuation of Inventories

3. Cash Flow Statements
4. Contingencies and Events occurring after the Balance Sheet date
5. Net Profit and Loss for the period, prior period and extra-ordinary items and changes in accounting policies
6. Depreciation Accounting
7. Accounting for construction contracts
8. Accounting for Research and Development
9. Revenue recognition
10. Accounting for Fixed Assets
11. Accounting for effects and changes in Foreign Exchange Rates
12. Accounting for Government grants
13. Accounting for Investments
14. Accounting for Amalgamations
15. Accounting for Retirement benefits in the Financial Statement of Employers
16. Borrowing costs
17. Segment reporting
18. Related party disclosures
19. Leases
20. Earnings per share
21. Consolidated Financial Statements
22. Accounting for taxes on income
23. Accounting for Investment in Associates in Consolidated Financial Statements
24. Discontinuing Operations
25. Interim Financial Reporting
26. Intangible Assets
27. Financial Reporting of Interests in Joint Ventures
28. Impairment of Assets
29. Provisions, Contingent Liabilities and Contingent Assets

Explanation for Important Accountant Standards

AS-1 -Disclosure of Accounting policies:

All the significant Accounting policies followed in preparing and presenting financial statements shall be disclosed.

Following are the Fundamental Accounting Assumptions : -

- a) Going concern concept
- b) Consistency
- c) Accrual
- d) Form of Financial statements
- e) Disclosure at one place
- f) Change in accounting policy to be disclosed
- g) Effect on profit on account of change in policy

If the fundamental accounting assumptions are not followed, the fact should be disclosed.

AS –2 – Valuation of Inventories :

Inventories are assets :

- (a) Held for sale
- (b) In the process of production
- (c) In the form of materials to be consumed

Inventories should be valued at cost or net realizable value whichever is less.

Cost of Inventories comprises of :

- (a) Cost of purchase
- (b) Cost of conversion
- (c) Other costs incurred in bringing the inventories to their present location and condition

But excludes

- (a) Abnormal amount of wasted materials, labour or other production costs
- (b) Storage cost (not necessary for production process)
- (c) Administration overheads (not necessary for bringing inventories to present level)
- (d) Selling and Distribution costs

Cost Formula :

The two cost Formula normally used are :

- (a) First in First out (FIFO) or
- (b) Weighted Average

Techniques for the measurement of cost are :

- (a) The Standard Cost Method
or
- (b) The Retail method

Disclosure :

The financial statements should disclose :

- (1) The accounting policies adopted in measuring Inventories, including the cost formula used
- (2) The total carrying amount of inventories and its classification appropriate to the enterprise.

AS-4 – Contingencies and Events Occurring after the Balance sheet date

A **Contingency** is a condition/situation, the ultimate outcome of which, gain or loss will be known or determined only on the occurrence, non-occurrence, of one or more uncertain future events.

Events occurring after the Balance sheet Date : are those significant events, both favourable and unfavourable, that occur between the balance sheet date and the date on which the financial statements are approved by the Board of Directors.

Disclosure :

Following are the governing rules for disclosing events occurring after the Balance sheet date :

- (a) Apply only in respect of those contingencies or events which affect the financial position to a material extent.
- (b) If a contingent loss is not provided for, its nature and an estimate of its financial effect are to be disclosed by way of note unless the possibility of loss is remote. If a reliable estimate of the financial effect cannot be made, this fact is to be disclosed.
- (c) When the events occurring after the Balance sheet date are disclosed in the report of the approving authority, the information given comprises the nature of the events and an estimate of their financial effects or a statement that such an estimate cannot be made.

AS -5- Net Profit and Loss for the period, prior period and extraordinary items and changes in accounting policies

Prior Period items :

Income and Expenses which arise in the current year as a result of errors and omissions in the preparation of the financial statements of one or more prior periods shall be disclosed under this head.

AS-6- Depreciation Accounting

Applicable to all Depreciable assets except :

- (a) Forests, Plantations and regenerative natural resources
- (b) Wasting assets minerals, oils etc.,
- (c) Expenditure on research and development
- (d) Goodwill
- (e) Live Stock

And not applicable to land unless it has a limited useful life for the enterprise.

Depreciable assets are the assets which are expected to be used during more than one accounting period and have limited useful life and are used in the production or supply of goods and services,.

Expected useful life of the depreciable assets means expected physical usefulness of the assets after its physical wear and tear or other limits on the usefulness of the assets.

Depreciable amount = Historical cost – Estimated residual value.

Methods of allocating Depreciation

There are two methods of allocating Depreciation viz.,

- (a) Straight line method
- and
- (b) Reducing balance method

Whatever the method, that is going to be adopted by the enterprise should be followed consistently.

If there is any change in method of Depreciation, effect on profitability has to be quantified and has to be charged to profit and loss account.

Disclosure :

For each class of Depreciable asset, following details are to be disclosed :

- (1) The Historical cost
- (2) Depreciation for the period
- (3) The related Accumulated Depreciation
- (4) Depreciation method used and the rate of Depreciation used

AS – 9 – Revenue Recognition

Revenue recognition is mainly concerned with the timing of recognition of revenue in the P & L Account. The amount of revenue arising on a transaction is usually determined by agreement between the parties involved in the transaction. When uncertainties exist regarding the determination of the amount or its associated cost, these uncertainties may influence the timing of revenue recognition.

Under this standard, separate criteria have been laid down for revenue recognition in respect of sale of goods and rendering of services, the use by others of enterprise resources yielding interest, royalties and dividend.

AS -10- Accounting of Fixed Assets :

Fixed assets are assets held with the intention of being used for the purpose of producing or providing goods and services.

Components of Cost :

Cost of a fixed assets comprises of :

- (a) Purchase price (net of trade discounts and rebates)
- (b) Import duties
- (c) Other non-refundable taxes or levies
- (d) Any directly attributable cost of bringing the asset to its working condition for its intended use
- (e) Financing costs – up to completion /acquisition
- (f) Trial or test run / commissioning expenses
- (g) Expenses incurred between the date of project is ready to actual beginning of commercial production can be treated as deferred revenue expenses.

This Accounting standard also covers :

- Self Constructed fixed assets
- Improvement and Repairs - Capitalised (increase the future benefits beyond its standard of performance).
- Revaluation of Assets
- Retirement and Disposals
- Goodwill
- Patents – (1) by purchase - valued at purchase cost
(2) by development – identifiable cost
- Know – how
 - (a) Related to plans, designs and drawings of buildings or plant and machinery – Capitalised under relevant heading
 - (b) Related to manufacturing process – expenses in the year in which it is incurred.

Disclosure :

In the Financial Statements, following are to be disclosed .

- (1) Gross block, additions or deletions and Net Block of Assets.
- (2) Expenses incurred in the course of construction or acquisition of fixed assets.
- (3) Revalued amount (if any) and the method adopted.

AS-12 – Accounting for Government Grants

Applies to Accounting for Government Grants other than :

- (a) The special problems arising in accounting for government grants in financial statements reflecting the effects of changing prices or in supplementary information of a similar nature;
- (b) Government assistance other than in the form of government grants;
- (c) Government participation in the ownership of the enterprise.

1) Government grants should not be recognised until there is reasonable assurance that :

- (a) the enterprise will comply with the conditions attached to them, and
- (b) the grants will be received.

Mere receipt of a grant is not necessarily conclusive evidence that conditions attaching to the grant have been or will be fulfilled.

1. Government grants related to specific fixed assets should be presented in the balance sheet by showing the grant as a deduction from the gross value of the assets concerned in arriving at their book value. Where the grant related to a specific fixed asset equals the whole, or virtually the whole, of the cost of the asset, the asset should be shown in the balance sheet at a nominal value. Alternatively, government grants related to depreciable fixed assets may be treated as deferred income which should be recognised in the profit and loss statement on a systematic and rational basis over the useful life of the asset, i.e., such grants should be allocated to income over the periods and in the proportions in which depreciation on those assets is charged. Grants related to non-depreciable assets should be credited to capital reserve under this method. However, if a grant related to a non-depreciable asset requires the fulfilment of certain obligations, the grant should be credited to income over the same period over which the cost of meeting such obligations is charged to income. The deferred income balance should be separately disclosed in the financial statements.
2. It is generally considered appropriate that accounting for government grant should be based on the nature of the relevant grant. Grants, which have the characteristics similar to those of promoters' contribution, should be treated as part of shareholders' funds. Income approach may be more appropriate in the case of other grants.
3. Government grants related to revenue should be recognised on a systematic basis in the profit and loss statement over the periods necessary to match them with the related costs, which they are intended to compensate. Such grants should either be shown separately under 'other income' or deducted in reporting the related expense.
4. Government grants in the form of non-monetary assets, given at a concessional rate, should be accounted for on the basis of their acquisition

cost. In case a non-monetary asset is given free of cost, it should be recorded at a nominal value.

5. Government grants that are receivable as compensation for expenses or losses incurred in a previous accounting period or for the purpose of giving immediate financial support to the enterprise with no further related costs, should be recognised and disclosed in the profit and loss statement of the period in which they are receivable, as an extraordinary item if appropriate.
6. A contingency related to a government grant, arising after the grant has been recognised, should be treated in accordance with Accounting Standard AS 4, Contingencies and Events Occurring After the Balance Sheet Date.
7. Government grants that become refundable should be accounted for, as an extraordinary item.

Disclosure requirements

The following should be disclosed:

- (i) The accounting policy adopted for government grants, including the methods of presentation in the financial statements;
- (ii) The nature and extent of government grants recognized in the financial statements, including grants of non-monetary assets given at a concessional rate or free of cost.

AS – 15 – Accounting for Retirement Benefits

Retirement benefits usually comprises of :

- (a) Provident Fund
- (b) Pension and Gratuity
- (c) Leave encashment
- (d) Post-retirement health and welfare schemes
- (e) Other retirement benefits provided by the employer to employee in pursuance of requirement of any law or otherwise.

Following are the governing rules for accounting retirement benefits :

- (1) Contribution paid by employer every year is charged to the statement of profit and loss for the year.
- (2) Actuarial valuation has to be made once in a year or at least once in three years.
- (3) In the case of Insurer, an actuarial certificate or confirmation from the insurer is required stating that the contribution payable is the appropriate accrual of the liability for the year.

Disclosure :

The following details are to be disclosed in the Financial statements of the enterprise :

- a. Method of determination of retirement benefits

- b. Actuarial valuation in the case of gratuity and other defined benefit schemes
- c. Date of Actuarial valuation, method by which contributions are arrived.

AS - 16 – Borrowing Costs

1. Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset should be capitalised as part of the cost of that asset. Other borrowing costs should be recognised as an expense in the period in which they are incurred.

Borrowing costs are interest and other costs incurred by an enterprise in connection with the borrowing of funds. Borrowing costs do not include actual or imputed costs of owner's equity including preference share capital not classified as a liability. The borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are those borrowing costs that would have been avoided if the expenditure on the qualifying asset had not been made.

Borrowing costs may include:

- (a) Interest and commitment charges on bank borrowings and other short-term and long-term borrowings;*
- (b) amortisation of discounts or premiums relating to borrowings;*
- (c) amortisation of ancillary costs incurred in connection with the arrangement of borrowings;*
- (d) finance charges in respect of assets acquired under finance leases or under other similar arrangements; and*
- (e) exchange differences arising from foreign currency borrowings to the extent that they are regarded as an adjustment to interest costs.*

2. Borrowing costs are capitalised as part of the cost of a qualifying asset when it is probable that they will result in future economic benefits to the enterprise and the costs can be measured reliably. Other borrowing costs are recognised as an expense in the period in which they are incurred.

3. To the extent that funds are borrowed specifically for the purpose of obtaining a qualifying asset, the amount of borrowing costs eligible for capitalisation on that asset should be determined as the actual borrowing costs incurred on that borrowing during the period less any income on the temporary investment of those borrowings.

4. Expenditure on a qualifying asset includes only such expenditure that has resulted in payments of cash, transfers of other assets or the assumption of interest-bearing liabilities. Expenditure is reduced by any progress payments received and grants received in connection with the asset (see Accounting Standard 12, Accounting for Government Grants). The average carrying amount of the asset during a period, including borrowing costs previously capitalised, is normally a reasonable approximation of the expenditure to which the capitalisation rate is applied in that period.

5. Capitalisation of borrowing costs should cease when substantially all the activities necessary to prepare the qualifying asset for its intended use or sale are complete.

Disclosure requirements

The financial statements should disclose:

- (a) the accounting policy adopted for borrowing costs; and
- (b) the amount of borrowing costs capitalised during the period.

AS – 25- Interim Financial Reporting

Interim Financial report means a financial report containing either a complete set of financial statements or a set of condensed financial statements for an interim period.

Interim period is a financial reporting period shorter than a full financial year.

Following are the minimum components of the Interim Financial Report :

- a. Condensed Balance Sheet
- b. Condensed P & L Account
- c. Condensed Cashflow Statement
- d. Selected explanatory note

This Accounting standard also deals with the use of estimates, transitional provision, costs incurred unevenly during the year, revenue received seasonally, materiality and recognition and measurement issues.

AS-28 – Impairment of Assets

1. AS 28 should be applied in accounting for the impairment of all assets, other than: (a) inventories; (b) assets arising from construction contracts (c) financial assets, including investments that are included in the scope of AS 13, Accounting for Investments; and (d) deferred tax assets.

2. An enterprise should assess at each balance sheet date whether there is any indication based on external and internal sources of information that an asset (or cash generating unit) may be impaired. If any such indication exists, the enterprise should estimate the recoverable amount of the asset (or cash generating unit) and provide for impairment losses where applicable.

- a) *Impairment loss is the amount by which the carrying amount of an asset exceeds its recoverable amount.*
- b) *Recoverable amount is the higher of an asset's net selling price and value in use.*

- c) *Value in use is the present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life.*
- d) *Net selling price is determined on the basis of a binding sale agreement or in an active market, the asset's market price less the costs of disposal or on the basis of other best information available. Sometimes it will not be possible to determine net selling price because there is no active market or a basis for making a reliable estimate of the amount obtainable from the sale of the asset in an arm's length transaction between knowledgeable and willing parties. In this case, the recoverable amount of the asset may be taken to be its value in use.*
- e) *Recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows from continuing use that are largely independent of those from other assets or groups of assets. If this is the case, recoverable amount is determined for the cash-generating unit to which the asset belongs, unless either: (a) the asset's net selling price is higher than its carrying amount; or (b) the asset's value in use can be estimated to be close to its net selling price and net selling price can be determined.*

3) If there is an indication that an asset may be impaired, this may indicate that the remaining useful life, the depreciation (amortisation) method or the residual value for the asset need to be reviewed and adjusted under AS 6 even if no impairment loss is recognised for the asset.

4) If the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset should be reduced to its recoverable amount. That reduction is an impairment loss. An impairment loss should be recognised as an expense in the statement of profit and loss immediately. However, an impairment loss on a revalued asset is recognised directly against any revaluation surplus for the asset to the extent that the impairment loss does not exceed the amount held in the revaluation surplus for that same asset.

5) When the amount estimated for an impairment loss is greater than the carrying amount of the asset to which it relates, an enterprise should recognise a liability if, and only if, that is required by another Accounting Standard.

6) After the recognition of an impairment loss, the depreciation (amortisation) charge for the asset should be adjusted in future periods to allocate the asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Reversal of an Impairment Loss for an individual asset

An enterprise should assess at each balance sheet date whether there is any indication that an impairment loss recognised for an asset in prior

accounting periods may no longer exist or may have decreased. If any such indication exists, the enterprise should estimate the recoverable amount of that asset.

An impairment loss recognised for an asset in prior accounting periods should be reversed if there has been a change in the estimates of cash inflows, cash outflows or discount rates used to determine the asset's recoverable amount since the last impairment loss was recognised. If this is the case, the carrying amount of the asset should be increased to its recoverable amount. That increase is a reversal of an impairment loss.

The increased carrying amount of an asset due to a reversal of an impairment loss should not exceed the carrying amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised for the asset in prior accounting periods.

A reversal of an impairment loss for an asset should be recognised as income immediately in the statement of profit and loss, unless the asset is carried at revalued amount in accordance with another Accounting Standard (see Accounting Standard (AS) 10, Accounting for Fixed Assets) in which case any reversal of an impairment loss on a revalued asset should be treated as a revaluation increase under that Accounting Standard.

After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the asset should be adjusted in future periods to allocate the asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Disclosure

For each class of assets, the financial statements should disclose: (a) the amount of impairment losses recognised in the statement of profit and loss during the period and the line item(s) of the statement of profit and loss in which those impairment losses are included; (b) the amount of reversals of impairment losses recognised in the statement of profit and loss during the period and the line item(s) of the statement of profit and loss in which those impairment losses are reversed; (c) the amount of impairment losses recognised directly against revaluation surplus during the period; and (d) the amount of reversals of impairment losses recognised directly in revaluation surplus during the period.

AS -29 – Provisions, Contingent Liabilities and Contingent Assets

AS 29 should be applied in accounting for provisions and contingent liabilities and in dealing with contingent assets, except (a) those resulting from financial instruments that are carried at fair value; (b) those resulting from executory contracts; (c) those arising in insurance enterprises from

contracts with policy-holders; and (d) those covered by another Accounting Standard.

Provisions

A provision should be recognised when (a) an enterprise has a present obligation as a result of a past event; (b) it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and (c) a reliable estimate can be made of the amount of the obligation.

A restructuring provision should include only the direct expenditures arising from the restructuring, which are those that are both (a) necessarily entailed by the restructuring; and (b) not associated with the ongoing activities of the enterprise.

The amount recognised as a provision should be the best estimate of the expenditure required to settle the present obligation at the balance sheet date. The amount of a provision should not be discounted to its present value. The estimates of outcome and financial effect are determined by the judgment of the management of the enterprise, supplemented by experience of similar transactions and, in some cases, reports from independent experts. The evidence considered includes any additional evidence provided by events after the balance sheet date.

The risks and uncertainties that inevitably surround many events and circumstances should be taken into account in reaching the best estimate of a provision. Risk describes variability of outcome.

Contingent Liabilities

An enterprise should not recognise a contingent liability.

Contingent Assets

An enterprise should not recognise a contingent asset.

Disclosure

1. In the statement of profit and loss, the expense relating to a provision may be presented net of the amount recognised for a reimbursement.
2. For each class of provision, an enterprise should disclose (a) the carrying amount at the beginning and end of the period; (b) additional provisions made in the period, including increases to existing provisions; (c) amounts used (i.e. incurred and charged against the provision) during the period; (d) unused amounts reversed during the period; (e) a brief description of the nature of the obligation and the expected timing of any resulting outflows of economic benefits; (f) an indication of the uncertainties about those outflows. Where necessary to provide adequate

information, an enterprise should disclose the major assumptions made concerning future events; and (g) the amount of any expected reimbursement, stating the amount of any asset that has been recognised for that expected reimbursement.

3. Unless the possibility of any outflow in settlement is remote, an enterprise should disclose for each class of contingent liability at the balance sheet date a brief description of the nature of the contingent liability and, where practicable (a) an estimate of its financial effect; (b) an indication of the uncertainties relating to any outflow; and (c) the possibility of any reimbursement. Where any of this information is not disclosed because it is not practicable to do so, that fact should be stated.
4. In extremely rare cases, disclosure of some or all of the information required by paragraphs 2 and 3 above can be expected to prejudice seriously the position of the enterprise in a dispute with other parties on the subject matter of the provision or contingent liability. In such cases, an enterprise need not disclose the information, but should disclose the general nature of the dispute, together with the fact that, and reason why, the information has not been disclosed.

FINANCE

FINANCIAL MANAGEMENT

Financial Management involves :

- a) Capital Budgeting
- b) Budgetary Control
- c) Working Capital Management
- d) Inventory Management
- e) Financial Analysis Tools

I. CAPITAL BUDGETING :

Capital Budgeting Process involves planning the availability of funds and controlling the allocation and expenditure of long-term investment funds. A Capital Budget is an effective way of adjusting demand for funds and selecting and assigning priorities of investment within the framework of corporate objectives and targets. One of the important objectives of Capital Budgeting procedure is to evaluate the projects for ascertaining their financial viability, prioritizing among the various alternatives available through appropriate tools and techniques systematically. Capital budgeting is mainly a decision making process by way of facilitating the decision makers with required analysis of financial data. The focus is on directing the decision towards investment opportunities which is most profitable.

The important Capital Budgeting Techniques are :

- (i) Pay Back Period
- (ii) Discounted Cash flow Techniques

(i) Pay Back Period :

This denotes the number of years in which the total investment pays back itself.

$$\text{Pay Back period} = \frac{\text{Original Investment}}{\text{Annual Cash - Inflows}}$$

The Annual Cash inflow represents the earnings, i.e. estimated cash savings resulting from the proposed investment. For instance, if a project requires an investment of Rs. 12,00,000/- and has an estimated life of 8 years promising cash savings of Rs. 4,00,000/- a year (before depreciation). The project will pay for itself in 3 years. If the cash inflows are unevenly distributed in time, then the Payback period would be determined considering the cumulative cash inflows and matching it with the investment. The number of years in which the cumulative cash inflows is equivalent to investment is the pay back period of the project. Companies making international investments in countries having high inflation rates, unstable governments use Payback period as a primary decision criterion because of their inability to forecast or measure such risks. Though, this is an easier method, it does not take the time value of money and hence, used rarely.

(ii) **Discounted Cashflow Techniques**

The DCF method again has the following dimensions in its use and application.

- ❖ Net Present Value (NPV)
- ❖ Internal Rate of Return (IRR)
- ❖ Benefit – Cost Ratio (BCR)

Net Present Value :

Present value of Re. 1/- will not be same for all the ensuing year. It goes on reducing. Similarly Re.1/- cash inflow in the next year or subsequent years will not be equal to Re.1/- of present value. The DCF method captures the present value of money for financial evaluation. To find out the present value of Re. 1/-, following formula can be used :

$$P.V = \frac{1}{(1+K)^n}$$

Where PV- Present Value, K- Discount rate and n – number of years

The discount rate is the rate at which the business man expects to earn the money he invests.

If the Discount rate is 10%, then, $PV = 1 / (1 + 10/100)^1 = 1/1.1 = 0.909$

PV of Re1 to be received at the end of one year is Re. 0.909

PV of Re1 to be received at the end of two years is Rs. 0.826

PV of Re1 to be received at the end of three years Rs. 0.751

Example of comparing NPV with Investment : There is a proposal involving an investment of Rs. 4000/- with an expected cash inflow of Rs. 1,000 a year for 5 years. The required earnings rate is 15% or 6%.

Year	Cash inflows	PV at 15%	Total PV @15% (Rs.)	PV at 6%	Total PV @6% (Rs.)
1	1000	0.870	870	0.943	943
2	1000	0.756	756	0.890	890
3	1000	0.658	658	0.840	840
4	1000	0.572	572	0.792	792
5	1000	0.497	497	0.747	747
Total			3353		4212

The present value of cash flow at 15% discount factor is less than the investment and hence cannot be accepted. The Present value of cash inflow at 6% discount factor is greater than Rs.4000/- being the investment and hence acceptable.

Net Present Value (NPV) is the difference between present value of benefits and present value of costs.

Example – Evaluation of two projects using NPV method : There are Two Projects – Project A & Project B each having initial investment of Rs. 5,00,000/- . The cash inflows for these two Projects are as shown below. By using NPV method with 10% discount factor, the projects are evaluated as follows:

Particulars	Project A	Project B	Discount Factor @10%	PV of Project A	PV of Project B
	(Rs.)	(Rs.)		(Rs.)	(Rs.)
Initial Investment	500000	500000	1	500000	500000
Cash inflow 1 st year	150000	50000	0.909	136350	45450
2 nd Year	200000	150000	0.826	165200	123900
3 rd Year	250000	200000	0.751	187750	150200
4 th Year	150000	300000	0.683	102450	204900
5 th Year	100000	200000	0.62	62000	124000
Total of Cash Inflows	850000	900000		653750	648450

Net Present Value :

Project A : Rs. 6,53,750- Rs. 5,00,000 = Rs. 1,53,750

Project B : Rs. 6,48,450 – Rs. 5,00,000 = Rs. 1,48,450

Therefore, Project A is more beneficial.

By using ready 'function' in MS EXCEL, then NPV can be calculated quickly and easily.

Internal Rate of Return (IRR) :

In the Present Value method, the required earnings rate is selected in advance. There is an alternative method which finds the earnings rate at which the present value of the earnings equals the amount of investment. This rate is called 'time-adjusted Return', 'Discounted cashflow rate of return', 'internal rate of return', 'yield rate', 'investor's method' or 'marginal efficiency of capital'. The Internal Rate of Return (IRR) is the rate which brings the sum of future cash flows to the same level as the original investment. This is normally calculated by trial and error method. By using the 'function' in MS EXCEL the IRR can be calculated directly.

Many companies normally predetermine the IRR based on the cost of capital and fixes that as the basic minimum expected return for evaluating any new investment.

Benefit to cost Ratio (BCR): Benefit to cost Ratio is often called Profitability index. The BCR can be defined as the ratio of Benefits as compared to Cost incurred. The BCR is an extension of NPV wherein the present value of future cash inflows is calculated and the resultant value is compared with the investment. The formula for calculating the BCR is :

$$\text{BCR} = \frac{\text{Present Value of Cash inflows}}{\text{Net Investment}}$$

It gives the rupee return for each rupee invested. If $\text{BCR} \geq 1$, project is acceptable; otherwise reject the project.

Ex : Comparison of two Projects A and B using BCR:

	Project A (Rs.)	Project B (Rs.)
1 Investments	2,00,000	4,50,000
2 Present value of Cash inflows	3,00,000	6,00,000
3 Net Present Value (2-1)	1,00,000	1,50,000
4 Benefit-Cost Ratio (2÷ 1)	1.50	1.33

The result of the analysis indicates that the both the projects are acceptable, since their NPVs and BCR are greater than zero. If the Projects are ranked on the basis of NPV Project B is preferable. If the Projects are ranked on the basis of BCR, Project A is preferable. If the firm has unlimited funds, then NPV method is more preferable. On the other hand, in case of limited funds, BCR method is more appropriate as it gives per rupee return from a project.

II. BUDGETARY CONTROL :

Budget :

Budget is a financial and /or quantitative statement, prepared and approved prior to a period of time. In other words it is a statement which represents a plan of action for specific future period and it is expressed in terms of money and quantity.

Budgeting :

Budgeting is the process of formulation of plans for future activity, which lays down carefully the targets to be achieved and course of action to be followed, and provides yard sticks to measure deviations.

Budgetary Control :

Budgetary Control is a system, which uses budget as a means of planning and controlling all aspects and producing and/or selling commodities and services. Through this technique, management can realize its objectives and control all business activities most effectively.

Steps Involved in Budgetary Control :

Following steps are involved in Budgetary control :

- (i) Establishment of Budgets for each section/Department and for the entire business organisation.
- (ii) Recording actual performance.
- (iii) Continuous comparison of the actual performance with that of budget and determining the variances.
- (iv) Ascertainment of reasons for such variances.
- (v) Taking suitable actions to correct the defects.
- (vi) Revision of budget, in the light of experience and changed circumstances, if necessary.

Classification of Budgets

a. On the Basis of time :

- ❖ Long Term Budgets
- ❖ Short Term Budgets
- ❖ Rolling Budget

b. On the basis of Functions :

- ❖ Capital Budget
- ❖ Revenue Budget
- ❖ Sales, Production, etc.,

c. On the basis of method adopted for estimation

- ❖ Incremental Budget
- ❖ Zero Based Budgeting
- ❖ Flexible

Budgeting and Budgetary Control system in KPTCL :

Capital Budget :

A detailed circular was issued from MD, KPTCL on Budgetary Control + Capital Budgeting process vide No. FA(A&R)/563 dated 2nd November, 2004. The extracts of the circular which contains the guiding principles for capital budget and the process involved is reproduced below for reference.

“ It is observed that planning of Capital Budget of the Corporation is done without subjecting proposed specific projects to financial viability criteria strictly. The Detailed Project Reports (DPR) which form basis for our Capital Budget Program contain a ‘ Benefit to Cost Ratio ’ as a sole financial evaluation parameter

which is not scrutinized before approval of the project and seldom verified after the project is completed. Many times, *the financially unviable projects are taken up leading to increase in financial burden of the Corporation rather than improving efficiency and revenue returns.* The basic principle all of us have to keep in mind is that " carry out our business on commercial principles ". In fact, the Cash Flow Projections and Debt Service Coverage Ratio(DSCR) for the current year ie., 2004-05 which is at present less than one, doesn't permit us to spend anything on Capex since PBIT (Profit Before Interest and Tax) is insufficient to meet existing debt servicing obligations itself. That doesn't mean that financial viability is the one and only criteria to be reckoned for spending on capex. To expand our business and to meet future growth besides improving our existing system, we have to invariably invest on capital works. The point being stressed here is that any capital investment we intend to make should result in either additional revenue or savings in cost or improving efficiency. Though the Capital Budgeting exercise is more complex in power utility like ours, certain prudent financial principles, if followed scrupulously would definitely yield good results. In view of this, it is expected that the Finance personnel have to be involved in the Capital Budgeting exercise right from formulation stage and they have to play a key role as far as determining the financial viability of the project and sourcing funds for the project are considered. The broad principles in formulating our Capital Budgeting Program are listed below; and from here afterwards these principles shall be strictly adopted and followed as procedure without any lapse.

Constitution of Budget Committees:

There shall be dedicated Committees constituted at both field and Corporate level to thoroughly scrutinize and examine each proposed project in a prescribed and specified systematic manner. Unless the Committee consciously considers all the aspects and convincingly records its recommendations on the feasibility of a project duly factoring in the parameters prescribed, it shall not be included in the Budget. The constitution of Committee shall be as shown below. The Committee at each Unit level (ie., MW Division / TL &SS Division / MW Circle / Zonal Office) shall be formed by Zonal Chief Engineer and Controller of Zone and

necessary OM issued immediately. Necessary Orders shall be issued by GM(Technical) regarding formation of Committee at Corporate Office level.

- At Accounting Unit level
 - Technical Officers + AO / DCA / CA + AO(IA)
- At Corporate Office Level
 - MD, DT, DF/FA; C(IA)

Further the systematic approach for evolving the Capex Budget for a particular year should be on the following lines.

1. Necessity of taking up future projects.
2. Evaluation of proposed Capital Program
3. Sourcing of proposed Capital Works
4. Execution of Works
5. Monitoring of Works
6. Post Project Appraisal.

The parameters to be considered under each step are detailed below :

1. **Necessity of taking up future projects.**

The Technical Officer proposing a capital work has to clearly lay down the necessity for the project duly identifying the same under any of the following category:

- a. **Growth** / Expansion / Building up additional market
- b. **Improvement** / Strengthening of network.
- c. Reduction of losses / toning up **efficiency**
- d. Capacity to source / **affordability**
- e. **Social-economic programs** of the State Government

In each of the category, *the economies are to be worked out specifically to elicit that they are worth taking up before decisions are made on capex program.*

2. **Evaluation of proposed Capital Program**

It is the primary responsibility of the Technical Officer proposing a capital work to evaluate the viability of the same on financial, technical and other parameters. The project so proposed shall be scrutinized by the Finance Officer of the Unit as far as the financial viability is concerned with particular reference to the benefits and costs quantified. He should record his observations on the DPR itself in clear terms. The evaluation of proposed capex program shall be based on following parameters:

- Selection of appropriate **Criteria** for approving the project on financial parameter
- **DPRs** (Detailed Project Report) of each project needs to be evaluated using the financial parameters like **BCR (Benefit to Cost Ratio)**, **PBP (Pay Back Period)**, **NPV (Net Present Value)**, **IRR (Internal Rate of Return)**, etc., choosing an appropriate yardstick on case-to-case basis.

- The DPR after *scrutiny by Finance Officer* shall be submitted to Corporate Office after observing the usual formalities.
- At Corporate Office, the DPR shall again be subjected to scrutiny by Planning Section in respect of technical viability. As far as financial viability is concerned, FA will scrutinise.
- The Projects cleared by the Planning Section shall figure in the List of Capital Works to be put for clearance by the Budget Committee.
- Along with the proposed Capital Program, the **projected Cash Flow Statement and DSCR** for the ensuing year (for which the Capital Program is being formulated) shall also be worked out and put up for review by Budget Committee.
- While deciding the Capital program, the Budget Committee shall also take in to account the targets in FRP, directions from State Government if any, Social Programmes of the State Government (if any), Planning Commission (GoI) targets if any, expected capacity addition and consequential schemes for evacuation of additional capacity proposed, etc.,
- In case of paucity of funds or the expected Cash Flows and affordable External Borrowings are insufficient to meet the proposed capital program, the Budget Committee shall **prioritize the works (or shall direct Planning Section to do so)** duly pruning the size of the capital program of the year to the extent required.

3. Sourcing of proposed Capital Works:

The Budget Committee (at HO) while finalizing the Capital Works Program shall also consider the different sources from which the funds can be tied up. It shall be ensured that **no capital work be approved without proper tying up of required funds.** The D(F) and FA(A&R) shall indicate the available sources of funds for capital works with all supporting details. The flow of funds / availability of resources from following sources shall be assessed and pre-determined clearly and specifically.

- **Internal Resources**
- Net Profit (ROR or ROE)
- **Depreciation** (being non-cash expenditure, in excess of debt servicing of existing loans)
- **Deposits** from Consumers (if any)
- Collection of Augmentation Charges (if any)
- Any other Capital Receipts
- Tying up of funds (ie., External Borrowings)
 - Rate of Interest
 - Moratorium Period
 - Tenure of Loan
 - Financial Institution
 - Security / Guarantee required to be given
- All Capital Works, which figure in Capital Budget Program of the Corporation for the year, should indicate the sourcing of funds like PFC, REC or any other Financial Institution.

- The capex bills shall be discharged only out of specifically tied up funds strictly avoiding diversion of funds. One to one correlation to the source and expenditure is a must.

4. Execution of Works:

The procedural aspects relating to execution of works are to be followed scrupulously. The works are to be commenced only after ensuring proper sanction for the same, tying up of funds for the same, etc.,. The relevant points connected with execution are :

- **Sanctioning** authorities – All the Technical Authorities according sanctions to capital works shall ensure before hand that :
 - The works put up for sanction are included in the Capital Budget Program for the year.
 - The funds are tied up for that specific work.
 - Required clearances are obtained / will be obtained at right time.
 - The timing of drawal of funds from Financial Institutions, purchase of materials, payment to Contractors, etc., are synchronized properly to ensure least cost on idle funds.
- Self-execution vs **Turn Key works** – Technical Officers have to organize and co-ordinate the work properly to avoid cost and time overrun.
- *Avoid diversion* of materials

5. Monitoring of Works :

The review of capital program in its totality is not being done at present. Only the review of specific projects carried out in a period is being reviewed at the Meeting. At times it is difficult to know the progressive amount spent on our Capital Works easily. Hence **proper MIS and review by the Budget Committee at Corporate office is essential**. The periodical review of progress in Capital Program shall be done on the following lines :

- **Monthly Capex Review** Meeting (Finance Officers shall invariably be involved) – The Zonal CEEs and Controllers shall make a presentation to the Corporate body on the progress made in their respective Zones duly making comparison to approved Capital Program.
- **Physical and Financial Progress** should match without much variation. Before presenting the progress in the Review Meeting, this shall be ensured.
- Regular feedback shall be given to Planning Section of the Corporate Office about the progress of works (ie., **MIS**).
- In case of *variations* in project cost, the Authorities empowered to approve the same have to exercise due diligence and ensure proper checks are done and convince themselves about the necessity for revision of the cost.

6. Post Project Appraisal:

In the present system there is no post project appraisal at all. Unless such an exercise is done, there is no sanctity for the parameters prescribed for deriving the benefits envisaged in the DPR when the project is proposed. The appraisal shall be done in the following manner.

- The Technical Officer who initiated the project has to prepare and submit the **post project scenario** with particular reference to comparison of **expected savings** in energy / increased revenue / increased supply conditions, etc., projected in the DPR and the actual.
- The post project analysis made by the Technical Officer shall be seen by the Finance Officer of the Unit for his remarks / observations before the same is forwarded to the Corporate Office.
- The Planning Section at Corporate Office shall consolidate and submit a Monthly "**Post Project Analysis Report**" in respect of all completed works in previous month(s) to Budget Committee / Management duly comparing the DPR and Actuals as far as savings / benefits envisaged
- A separate **Cost and Time overrun** analysis in respect of each completed project analyzing the reasons shall also be submitted by the Planning Section at Corporate Office.
- The **Budget Committee** at Head Office shall **thoroughly review** the above reports and initiate appropriate corrective action to avoid cost and time over run in future. As far as post project analysis is considered, the Committee shall analyse and report to the Management on the reasons for not achieving targets in DPRs besides suggesting changes if any required for evaluation of the Projects in future.
- At Unit level the Finance Officer shall ensure submission of **Completion Report (CR)** by the Technical Officer in charge of execution of Work. The Finance Officer shall watch the pendency of CRs at regular intervals and report any inordinate delay besides taking action as laid down in the Accounts Manual.

The above guidelines / instructions shall be followed strictly without any lapse at any level. Any deviation from the laid procedure and norms will be specifically taken note of and the concerned Officers personally held responsible. "

Capital Budget is the capital works program of the Corporation for a financial year. For capital budget preparation the existing load profile, future growth, evacuation schemes to be taken up, up-gradation of lines and stations required etc., are the key considerations. The approved capital budget of the Corporation is called 'Annual Program of Works'.

Major Capital works of the Corporation are classified into 5 lists viz.,

List 1 : This list comprises of commissioned works and the budget is provided for completion of balance works and payment of pending bills.

List 2 : This list comprises of all ongoing works, which are to be commissioned during this financial year. This list also contains the works which are to be awarded on Turnkey so as to commission the same in this financial year.

List 3. : This list comprises ongoing and new works that are taken on turnkey basis as well as on LC basis for which funds have already been tied up and are likely to spill over to the next financial year.

List 4 : This list contains works of augmentations and other improvement works to be taken up on tying up funds.

List 5: This list contains new lines and stations, which are already approved in the Technical Committee.

For evaluating the projects the BCR method is being used in the Corporation.

Revenue Budget :

Revenue Budget is an estimation of revenue expenses of an Organisation for a specified period. In KPTCL Revenue Budget is estimating the expenditure under all the items of expenditure figured in P&L Account. Revenue Budget provides guidance as to the amount to be spent towards Revenue Expenditure at various unit offices under each heads of Account.

Corporate office obtains the requirement of Revenue Budget from all the Accounting units for the ensuing year based on the actual expenditure incurred during the first six months and estimated for the rest 6 months on prorata basis with certain assumptions. The information so received is scrutinized by the

Budget Section and put up for the approval of the Corporation. After approval, the same will be communicated to all the Accounting units. This Budget acts as expenditure planning and controlling tool at the unit level.

However, with the introduction of regulatory framework, there is a changed approach as to the finalization of Revenue Budget of KPTCL / ESCOMs. Though the Companies prepare their Revenue Budget estimating expenditure under various head based on input from field units, ultimately, the Revenue Expenses approved or allowed by the KERC would form the basis for finalizing the budget. The approved expenditure figures are the upper level cap for incurring revenue expenditure. If any expenditure is incurred over and above the approved level, it amounts to under-recovery through tariff and leaves a revenue gap uncovered in the tariff to that extent. Hence, more focus is there on incurring revenue expenditure under regulatory framework.

Similar to circular on Capital Budget, a circular was issued from MD, KPTCL on Revenue Budget also vide No. FA(A&R) / 565 dated 2nd November, 2004, the extracts of which is reproduced below for reference.

"The Revenue Budgeting and control of revenue expenditure vis-à-vis budgetary provision requires to be streamlined. Earlier to corporatisation of erstwhile Board into Company and before regulatory regime came into force in the State, revenue expenditure projected by each Accounting Unit for next year on the basis of actual requirement was the basis for determining and finalising Revenue Expenditure Budget. Subsequently, that system has been discontinued and concept of incremental budgeting at Corporate Office level is introduced. Finally the revenue expenditure requirement of the Company for the year under various heads are pruned and capped at the level approved by the KER Commission.

This Top-to-Down approach is fraught with many drawbacks. On one hand the requirements of the Units are not taken into cognizance properly and on the other hand, Company is found to be in wanting while putting up an effective case before the Commission for getting the proposed revenue expenditure approved in the absence of basic data. By adding certain percentage of increase on the base number to the existing level of expenditure and arriving at the Budget

requirement, the Company is drifting away from adopting the concepts of ZBB (Zero Base Budgeting). In this connection, the following systematic steps are prescribed for formulating the Revenue Expenditure Budget and monitoring the expenditure in a scientific manner.

1. The **Revenue Expenditure budget shall be based on ' Bottom-Up ' approach** wherein the actual requirement of revenue expenditure budget is assessed based on the estimates made by each accounting Unit well before the ensuing financial year.
2. The estimate of revenue expenditure requirement by the Accounting Units (which are Cost Centers) shall be based on the **concepts of ' ZBB '**. Under this approach, in the case of regular recurring revenue expenditure, the head of the Unit shall justify the existing level of expenditure i.e, revenue expenditure actually spent during last financial year at the first instance. Any increase sought over and above the existing level should be justified with supporting data / information.
3. In the case of other revenue expenditure, the head of the unit shall actually estimate the requirement for the next year duly giving details of proposed expenditure.
4. *Each Accounting Unit shall prepare the Revenue Expenditure budget of the Unit for the ensuing year positively before October of the current year. The Units have to furnish working details / supporting papers for the numbers so worked out.*
5. The six months data from April to September of the current year has to be taken into cognizance by the Units while projecting or estimating the revenue expenditure requirement for ensuing year.
6. *The estimated figures of the Units has to be thoroughly scrutinized / verified by the Budget / Planning Section of the Corporate Office to identify the unnecessary expenditure proposed.*
7. The Budget Section shall put the consolidated revenue expenditure requirement of the Units under various heads for the ensuing year for **approval of the Management** before 15th Nov. of the current year.
8. After in-principle approval of the Management is accorded, the **ERC will be finalised** for the ensuing year based on the approved revenue

expenditure budget and submitted to the KERC before the end of November of current year (ie., the date fixed for filing ERC for ensuing year).

9. After validation, the KERC would approve ERC or pass **Tariff Order** in all probability before the end of March of the current year.
10. The revenue expenditure figures as approved by KERC would form the basis for pruning or capping the revenue expenditure in case the entire revenue expenditure sought for in ERC is not approved.
11. In case the Commission disallows certain revenue expenditure, but Management decides to incur such expenditure (like payment of Bonus / Ex-gratia, Cost of subsidised power supply) a definite decision will be conveyed from Corporate Office on incurring of such expenditure to all Units in advance.
12. In case, the *Commission as a measure of efficiency or any other reason reduces the revenue expenditure size*, it shall be proportionately reduced across the revenue expenditure requirement of all the Accounting Units and intimated accordingly.
13. Whether or not, there is change in revenue expenditure level approved in the ERC, a **Revenue Expenditure Budget comprising of Accounting Unit-wise, Accounting Head-wise figures approved in ERC shall be prepared** by the Budget Section matching the aggregate number to the figures in relevant Tariff Order and got approved by the Board. The approved Budget should be circulated among all Units positively by the end of March.
14. The actual revenue expenditure has to be **monitored** by the Budget Section comparing the same with approved budget at regular intervals, preferably every month and once in three months compulsorily. A feedback report on such comparison be put up to Management once in three months for review.
15. The **Budget Section** while circulating the Revenue Budget for the ensuing year shall **lay down the procedure and Authority** for the following:
 - Re-appropriation among different Accounting Units
 - Re-appropriation among main Heads of Account
 - Re-appropriation within one main Head of Account

- Approving excess over the approved level of expenditure
- Allocation of budget for account heads not operated so far / newly operated revenue expenditure head.

16. In case of **unforeseen additional revenue expenditure** which was not prevailing at the time of filing ERC or at the time of passing Tariff Order by the KERC, the same has to be brought to the notice of the Commission as early as possible seeking pass through as an escalation or additional tariff charge. The Budget Section shall inform the Regulatory Office about such expenditure at the earliest.

17. As the role of Budget Section and Regulatory Office at Corporate Office are vital in formulation and regulating revenue expenditure budget, these two Sections shall take timely action by planning the work well in advance.

The above guidelines / instructions shall be followed strictly without any lapse at any level. Any additional working instructions required to implement the above guidelines and procedure will be issued by FA(A&R)."

Incremental Budget

It is also called traditional budgeting wherein the level of expenditure incurred during the previous year (or any other period) is taken as the basis and the probable increase (either due to growth or inflation) over that level is estimated to project the figures for ensuing year / period. Most of the Companies follow this traditional method of budgeting. KPTCL and ESCOMS are also following the same method for preparing their Revenue Budgets. Here the expenditure level already incurred in the previous year is taken for granted and assumes at least the expenditure will be at that level in the current/ensuing year also.

Zero Base Budgeting (ZBB)

Zero base budgeting is the technique developed in order to overcome the limitations of traditional Budgeting. Traditional Budgets are prepared on the past or historical figures and making adjustments for the future changes and inflation. It assumes the past as correct and makes allowance for increase in cost in future. Hence, traditional budget generally show upward direction. If there are

inefficiencies in the past, that will continue in the future as well. So as to curb this tendency and to control the cost effectively, new technique called Zero Base Budgeting was developed.

As the name indicates Zero Based Budgeting starts from Zero and all activities are re-evaluated each time thereby, justification for every rupee of expenditure is made. In other words it assumes that there is no expenditure on any account when the budgeting exercise begins and even the level of expenses incurred in the previous year are required to be justified at the first instance and any additional expenditure to be incurred will be subjected to scrutiny as a second step.

Important feature of ZBB are :

- Emphasis is not merely on 'how much' to spend but is on 'why' it needs to be spent
- Every time, for every activity new budget is prepared. In other words, every budget starts with zero base.
- No past figure is taken as a base.
- Each activity to be examined afresh.
- Every Budget allocation is to be justified in the light of the benefits it could fetch.
- Alternatives are to be given due consideration.
- Every individual activity is related to corporate goals or targets.

Differences between ZBB and Traditional Budgeting

Traditional Budgeting	ZBB
Accounting Oriented	Decision Oriented
Based on the Past	Starts from the scratch/zero
There is a tendency to inflate the cost deliberately	Tendency to analyse cost of every activity rationally.
Top level management is involved	All levels of management is involved
Makes a routing Approach	Makes a straightforward approach and immediately highlights the decision packages enjoying priority over others.

Advantages of ZBB :

- Under ZBB every activity/ Operation is systematically evaluated and obsolete and inefficient operations are deleted. It creates cost consciousness among the employees and avoid wasteful expenditure.

- It enables the management to make proper allocation of resources according to priority of programmes.
- It provides a scope to think of alternative course of action.
- As every activity and cost needs justification, it promotes efficiency.
- As every budget is related to corporate objectives, no activity is allowed, if it does not serve the corporate goals or simply because it was carried out earlier.
- Since managers at all levels are involved in ZBB, implementation or execution will be easy.

Most of the advanced Companies as also developing Organisations have adopted ZBB in order to infuse cost consciousness within the Company and ensure effective and efficient utilization of scarce resources.

Rolling Budget

Keeping a specified budget period, the budget is revised on a continuous basis to capture the actuals of just completed month or quarter and estimating for extended one month or quarter of the future period.

Flexible Budget

It is a second phase of a normal budgeting process, wherein the components of the budget are estimated for different levels of operation. Thereby, if the level of activity doesn't match to the original budgeted figures, the appropriate budgeted figures in the Flexible budget will automatically assume the revised budget figures.

For example, a budget is prepared for 10,000 units to be marketed in a year. If the sales budget is at 8000, 9000, 11000 or 12000 units instead of revising the budget at a later date, a flexible budget for these levels is prepared in advance for using the same in future in case of changes in the level of activity.

III. WORKING CAPITAL MANAGEMENT

Working Capital refers to those items of assets, which are turned over in the process of the business operation. These assets are also called Current Assets.

Working Capital Management refers to management and control of current assets and current liabilities. Current liabilities are short term liabilities,

Current Assets Requirement:

	Norms	Rate	Amount (Rs.)
Inventories			
Raw Materials	2 months	Rs. 40x8000(units)x 2months	6,40,000/-
WIP	1 month	Rs. 56x8000(units)x1month	4,48,000/-
Finished goods	15 days	Rs. 68x8000(Units)x0.5months	2,72,000/-
Sundry Debtors	2 months	Rs. 85x8000(units)x2months	13,60,000/-
Gross Working Capital			27,20,000/-

Less : Current Liabilities

Sundry Creditors :

1 month : Rs.40x8000 (units)x1month Rs.3,20,000/-

Net working Capital Requirement Rs.24,00,000/-

Working Capital Policy :

Two important issues in formulating the working Capital policy are :-

- 1) What should be the levels of current assets for a given level of sales ?
- 2) How should the requirement to be financed ? How much should be out of long term and short term sources ?

Current assets are built keeping in mind a certain forecasted sale. Hence, there is bound to be a great degree of uncertainty with regard to the forecasted levels and pattern of sales, inventory procurement time, usage rates, collection period etc.,. In view of this , the outlay of current assets would consist of a base component meant to meet normal requirements and a safety component to cope with unusual demands and requirements.

Current assets can be financed out of long term or short term source of money. Long term sources of money will involve higher costs but greater safety in terms of not having to be discharged in the immediate future.

IV. INVENTORY MANAGEMENT

Inventory Management means exercising systematic methods and techniques for scientific storing and maintaining proper records with the objective of control of materials both in volume and value.

Inventory control has following objectives:

- Material control.
- Proper storing, systematic recording, period stock taking.
- Right investment on stores
- Right quantity of storing
- Right system of storing
- Right system of stock taking

Techniques of Inventory Control :

There are 3 main techniques of inventory control which are in practice.
Viz.,

- 1) ABC Technique
- 2) Perpetual Inventory System
- 3) Supply and demand method of stock control

ABC Technique :

This is one of popular method under which materials are grouped into 3 categories on the basis of size and value. It is an analytical approach based on statistical averages.

Category	Units % of total	Material Cost % of total
A	5-10	70-85
B	10-20	10-20
C	70-85	5-10

This method is based on the premise that in any organization large volume of materials constitute a small percentage of total inventory value and vice-versa. For effective control from the point of view of value it is easier to monitor small quantity of inventory which has large share in the total inventory value.

Perpetual Inventory System :

Perpetual inventory system means continuous verification of stock involving verification of certain items every day or at frequent intervals. For verification, the items may be selected every day on the basis of ABC technique. Perpetual Inventory system helps in controlling fraud, errors in

recording. It also helps in finding out the reasons for discrepancies between book stock and physical stock.

This system has following advantages :

- Detailed reliable check
- Continuous check
- Discovery of reasons for difference
- Moral effects on staff.

Supply and Demand analysis of stock control :

This is an important technique of stock control under which each and every item of materials, the following aspects are determined and recorded.

- Average usage
- Lead Time
- Effective economic order quantity (EOQ)
- Re-ordering level
- Maximum, minimum and danger level
- Average Stock level
- Reserve stock.

By determining the above factors for each and every item of material, regular supply may be assured and over stocking can also be controlled.

The above factors can be calculated as follows :

Economic Order Quantity (EOQ):

In inventory management two critical issues arise. One is cost of carrying inventory and the other is procurement cost. Inventory carrying cost include rent, light, obsolescence, material handling equipment maintenance, etc., and inventory procurement cost includes expenses incurred on the Purchase Department, cost of placing order and procurement of materials, inspection, etc.,. There should be a proper trade off between the two so that the inventory procurement cost and carrying cost are most economical. EOQ refers to the determination of a size or quantity of material to be purchased that has the least procurement cost and carrying cost. It is worked out using the following formula:

$$EOQ = \sqrt{\frac{2AB}{C}}$$

Where: A=Annual consumption or turnover

B=Ordering Costs

C= Inventory carrying costs expressed as a %

Re-order Level (ROL) :

It is a level at which fresh order should be placed.

$$\text{ROL} = \text{Maximum Consumption} \times \text{Maximum Delivery Time}$$

Minimum Stock level :

It is a level below which the material should not be allowed to go.

$$\text{Minimum Stock level} = \text{ROL} - (\text{Normal usage} \times \text{Normal Re-order Time})$$

Maximum Stock Level :

It means level beyond which material should not be stored

$$\text{Maximum Stock level} = \text{ROL} + \text{OQ} - [\text{MC} \times \text{MDP}]$$

Where : ROL – Re-order level OQ - Ordering Quantity
 MC – Minimum Consumption MDP – Minimum Delivery Period

Danger Level :

It is a level when it reaches immediate action should be taken to procure the materials.

Average usage :

It is an average consumption of materials in a given period of time.

Average Stock level :

It means the stock on an average to be maintained. It is calculated as :

$$\text{Average Stock} = \frac{(\text{Minimum Stock} + \text{Maximum Stock})}{2}$$

Reserve Stock :

It means a stock which should be kept as reserve and not to be issued under any circumstances unless it is reserved for a particular purpose.

V. FINANCIAL ANALYSIS TOOLS

The Financial Statement analysis is largely a study of relationship among various financial factors as shown by different statements. The analysis

and interpretation of financial statements are an attempt to determine the significance and meaning of the financial statement data which facilitates proper decision making process. In other words, ***Financial Analysis is the process of identifying the financial strengths and weakness of the firm by properly establishing relationship between the items of the balance sheet and profit and loss account.***

A. RATIO ANALYSIS :

There are various methods or devices to analyse the financial Statements. Ratio analysis is one among them. It is one of most powerful tools of financial analysis. The use of ratios are not confined to financial managers only. There are different parties interested in the ratio analysis for knowing the financial position and performance of a Company. The different uses of Ratio analysis are :

- Helps in decision Making
- Helps in Financial Forecasting and Planning
- Helps in communicating
- Helps in control
- Utility to share holders and Investors
- Utility to creditors
- Utility to employees

Ratios are classified as follows :

- (a) Liquidity Ratios
- (b) Activity Ratios
- (c) Long term Solvency Ratios
- (d) Profitability Ratios

(a) Liquidity Ratios

Liquidity refers to the ability of a concern to meet its current obligations as and when these become due. The short term obligations are met by realising amounts from current, floating or circulating assets. The current assets should either be liquid or near liquidity. To measure the liquidity of a firm, the following ratios can be calculated:

- (i) Current Ratio
- (ii) Liquid Ratio or Quick Ratio or Acid Test Ratio
- (iii) Absolute Liquid Ratio or Cash Position Ratio.

(i) Current Ratio:

Current ratio may be defined as the relationship between current assets and current liabilities. This is a measure of general liquidity. It is calculated as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Current Assets include cash, sundry debtors, inventory and those assets which can be easily converted into cash within a short period of time, generally, one year.

Current Liabilities are those obligations which are payable within a short period of time, generally, one year and include outstanding expenses. Bills payables, sundry creditors, accrued expenses. short term advances etc., Bank Overdraft – if not a permanent arrangement are included in current liabilities.

Interpretation of Current Ratio:

A relatively high current ratio is an indication that the firm is liquid and has the ability to pay its current obligations in time as and when they become due. On the other hand, a low ratio represents that the firm's liquidity is not good. A ratio of 2:1 is accepted to be a rule of thumb for this ratio. It is called 'Bankers' Rule of Thumb i.e., current assets double the current liabilities is considered satisfactory. The idea of having the current assets twice the current liabilities is to provide for the delays and losses in the realisation of current assets.

(ii) Liquid or Quick or Acid-Test Ratio:

This Ratio is a rigorous test of liquidity than the current ratio. This ratio expresses the relationship between quick/liquid assets and current (or) liquid /quick liabilities. It is similar to current ratio except that the current assets which are not liquid are excluded for calculation of the ratio. It is calculated as under:

$$\text{Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$$

Liquid assets=Current Assets-(Inventories +Prepaid Expenses)
Liquid Liabilities=Current Liabilities-(Bank Overdraft+Cash Credits)

Liquid Assets are those assets which can be converted into cash within a year without much loss of value.

Interpretation of Quick Ratio:

As a rule of thumb 1:1 is considered as a satisfactory quick ratio. A firm having a high quick ratio may not have a satisfactory liquidity position if it has slow paying debtors. On the other hand, a firm having a low quick ratio may have a good liquidity position if it has fast – moving inventories. This ratio measures the firm's capacity to pay off current obligations immediately. It is used as a complementary ratio to the current ratio.

(iii) Absolute Liquid Ratio :

Although receivables, debtors and bills receivables are generally more liquid than inventories, yet there may be doubts regarding their realization into cash immediately or in time. Hence, absolute liquid ratio is calculated along with current ratio by excluding even receivables from the current asset. This ratio is calculated as under :

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

Absolute Liquid Assets = Cash in hand, cash at Bank and Marketable Securities

The acceptable norm for this ratio is 0.5 :1 i.e, Re.1 worth absolute liquid assets are considered adequate to pay Rs. 2 worth current liabilities in time, as all the creditors are not expected to demand cash at the same time and then cash may also be realized from debtors and inventories.

(b) Activity Ratios :

The activity ratios measure the efficiency with which a firm manages its resources or assets. ***These ratios are also called as Turn Over Ratios because they indicate the speed with which assets are converted into***

sales. These Ratios along with the liquidity ratios will give a very clear picture of the short-term solvency position of the firm. Following are the Activity Ratios :

- (i) Inventory Turn over Ratio
- (ii) Debtors/ Receivables Turn over Ratio
- (iii) Creditors Turn over Ratio
- (iv) Working Capital Turn Over Ratio

(i) **Inventory Turn Over Ratio :**

This is also known as Stock Turn Over Ratio. The ratio indicates the efficiency with which inventory is used in a business. It indicates the number of times the stock is being turned over into Sales. It is calculated using any one of the following formulae depending upon the information available.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods sold}}{\text{Average Inventory at cost}}$$

Cost of goods sold can be calculated as follows :

(i)	Opening Stock	x x x x
	Purchases	x x x x
	Wages	x x x x
	Carriage on purchases /frieght	x x x x
		<u>x x x x</u>
	Less : Closing Stock	x x x x
	Cost of Goods sold	<u>x x x x</u>

(ii) Cost of goods sold = Net Sales – Gross Profit

$$\text{Average Inventory} = \frac{(\text{Opening Inventory} + \text{Closing Inventory})}{2}$$

Inventory Turn Over Ratio can also be calculated using following formulae :

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Closing Inventory}}$$

$$\text{Inventory Turn Over Ratio} = \frac{\text{Net Sales}}{\text{Average Inventory}}$$

$$\text{Inventory Turn Over Ratio} = \frac{\text{Net Sales}}{\text{Closing Inventory}}$$

Inventory Conversion Period (ICP) :

This ratio indicates the period taken for converting the stock into sales. Though, there are many methods to find out the Inventory Conversion period, the simplest formula is :

$$\text{Inventory Conversion Period} = \frac{365 \text{ days (or) } 360 \text{ days}}{\text{Inventory Turn over Ratio}}$$

The Inventory Conversion period is stated in the number of days (or months).

$$\text{Inventory Conversion Period (In months)} = \frac{12 \text{ months}}{\text{Inventory Turn Over Ratio}}$$

Debtors/ Receivables Turnover Ratio:

A business organisation may sell goods on cash as well as on credit. The volume of sales can be increased by following a liberal credit policy. But, the effect of a liberal credit policy may result in locking up substantial funds of a firm in the form of trade debtors. Trade debtors are expected to be converted into cash within a short period and are included in current assets. Hence, the liquidity position of a concern to pay its short-term obligations in time depends upon the quality of debtors. Two kinds of ratios can be computed to evaluate the quality of debtors:

- (a) Debtors Turnover Ratio
- (b) Average Collection Period

(a) Debtors Turnover Ratio :

This indicates the velocity of debt collection of a firm. It indicates the number of times average debtors are turned over during a year. It is calculated as follows:

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Annual Sales}}{\text{Average Trade Debtors}}$$

Where,

Trade Debtors = Sundry Debtors + Bills Receivables and
Accounts Receivables.

$$\text{Average Trade Debtors} = \frac{\text{Opening trade debtors} + \text{closing trade debtors}}{2}$$

Note: Debtors should always be taken at gross value. No provision for bad and doubtful debts be deducted from them

A simple form of this ratio is = $\frac{\text{Sales}}{\text{Debtors}}$

(b) Average Collection Period :

This represents the average number of days for which a firm has to wait before its receivables are converted into cash. This ratio is calculated as under:

$$\text{Average Collection Period} = \frac{\text{Average Trade Debtors}}{\text{Net Credit Annual Sales}} \quad \text{or}$$

$$\text{Average Collection Period} = \frac{365 \text{ (or) } 360 \text{ days}}{\text{Debtors Turn Over Ratio}}$$

$$\text{Average Collection period in months} = \frac{12}{\text{Debtors Turn Over Ratio}}$$

(c) Creditors Turnover Ratio:

The Suppliers of goods of a firm are interested in finding out how much time the firm is likely to take in repaying its trade creditors. The creditors turnover ratio indicates the speed with which the creditors are turned over in relation to purchases. It is calculated as under

Trade creditors = Sundry Creditors + Bills Payable

$$\text{Credit Turnover Ratio} = \frac{\text{Net Credit Annual Purchases}}{\text{Average Trade Creditors}}$$

Average Payment Period (APP)

This ratio indicates the period taken for conversion of creditors into purchases.

$$\text{Average Payment period} = \frac{\text{average Trade Creditors}}{\text{Net Credit Annual Sales}}$$

Or

$$\text{Average Payment period} = \frac{365 \text{ or } 360 \text{ days}}{\text{Creditors Turnover Ratio}}$$

(d) Working Capital Turnover Ratio:

This ratio indicates the velocity of the utilisation of net working capital. Working capital of a concern is directly related to sales. The current assets like sundry debtors, bills receivables, stock etc., change with the increase or decrease in sales. The working capital is taken as:

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities.}$$

$$\text{Working Capital Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Average Working Capital}}$$

Note: Cost of sales is nothing but cost of goods sold

$$\text{Average Working Capital} = \frac{(\text{Opening Working Capital} + \text{Closing Working Capital})}{2}$$

(c) Long Term Solvency Ratios :

Following are some of the important ratios to test the long term solvency of a firm :

- (ii) Debt- Equity Ratio
- (iii) Solvency Ratio
- (iv) Fixed Assets to Networth Ratio
- (v) Fixed Assets Ratio
- (vi) Ratio of Current Assets or Proprietor's Funds Ratio
- (vii) Debt Service Ratio.

Debt – Equity Ratio :

This ratio indicates the relationship between the external equities or the outsiders' funds to internal equities or the owner's/shareholder's funds. It is expressed as under :

$$\text{Debt Equity Ratio} = \frac{\text{Outsiders Fund}}{\text{Shareholder's Fund}}$$

Where, outsiders' fund includes all liabilities, whether long term or short term. Share holders funds include equity share capital, preference share

capital, share premium, capital reserve and revenue reserve (general reserve), surpluses, reserves for contingencies etc., The accumulated losses and deferred expenses, if any, should be deducted from the total to find out the shareholders funds. Such an amount is also called Share holders' net worth. Though, there is no standard thumb rule for this ratio, a ratio of 1:1 is considered satisfactory for practical purposes.

Solvency Ratio :

This ratio is expressed as 100 - Equity Ratio. For Eg., the equity Ratio is 65%, then the solvency ratio will be 100-65=35%.

Fixed assets to Networth Ratio :

This ratio indicates the relationship between fixed assets and share holders funds. It is calculated as follows :

$$\text{Fixed Assets to Networth Ratio} = \frac{\text{Fixed Assets after depreciation}}{\text{Shareholders funds}}$$

Fixed Assets Ratio :

This ratio expresses the relationship between fixed assets to long term funds. It is calculated as follows :

$$\text{Fixed Assets Ratio} = \frac{\text{Fixed assets after Depreciation}}{\text{Total Long term funds}}$$

Ratio of Current Assets to Proprietors Funds :

This ratio is calculated by dividing the total of current assets by the total amount of share holder's funds.

$$\text{Ratio of Current Assets to Proprietor's funds} = \frac{\text{Current Assets}}{\text{Proprietor's Funds}}$$

Debt-Service Ratio or Interest Coverage Ratio :

This ratio helps in testing the debt servicing capacity of a firm. It is calculated as follows :

$$\text{Debt Service Ratio} = \frac{\text{Net Profit before Interest \& Taxes}}{\text{Fixed Interest Charge}}$$

(d) Profitability Ratio :

Profits to the management are the test of efficiency and measurement of control. Profitability ratios are calculated to measure the overall efficiency of the business. The various profitability ratios are as follows :

- (i) Gross Profit Ratio
- (ii) Net Profit Ratio
- (iii) Operating Ratio
- (iv) Operating Profit Ratio
- (v) Expenses Ratio

These ratios are expressed as Percentage. The formulae below indicate how to calculate the ratios.

Gross Profit Ratio :

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

Net Profit Ratio :

$$\text{Net Profit Ratio} = \frac{\text{Net Profit (after Tax)}}{\text{Net Sales}} \times 100$$

Operating Ratio :

$$\text{Operating Ratio} = \frac{\text{Operating cost}}{\text{Net Sales}} \times 100$$

Where Operating Cost = Cost of Goods sold + Operating Expenses

Operating Profit Ratio :

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

OR

$$\text{Operating Profit Ratio} = 100 - \text{Operating Cost Ratio}$$

Where Operating Profit Ratio = Gross Profit – Operating Expenses

OR

$$\text{Operating Profit} = \text{Net Sales} - \text{Operating Cost}$$

Expenses Ratio :

$$\text{Expenses Ratio} = \frac{\text{Particular Expense}}{\text{Net Sales}} \times 100$$

(e) Overall Profitability Ratios :

The following ratios are calculated to ascertain the overall profitability of a business concern.

- Return on shareholders investment
- Return on equity capital
- Return on Capital employed
- Dividend yield Ratio
- Earnings Per Share (EPS)
- Price Earning Ratio (PER)

Return on Investment (ROI)

This ratio is one of the important ratios used for measuring the overall efficiency of a firm. This ratio reveals how well the resources of a firm are being used. Higher the ratio, better are the results. The inter-firm comparison of the ratio determines whether the investments in the firm are attractive or not as the investors would like to invest only where the return is higher. The formula used for calculation is as shown below :

$$\text{ROI} = \frac{\text{Net profit after Interest and Tax}}{\text{Shareholders funds}}$$

Where Share holders funds = Equity Share Capital + Preference Share Capital + Reserves and Surplus – (Accumulated losses if any)

Return on Equity Capital :

Equity share holders are the real owners of the company. They assume the highest risk in the company. Preference shareholders have a preference over equity shareholders in the payment of dividend as well as capital. The preference share holders usually get fixed rate of dividend. Thus, equity shareholders are more interested in the profitability of a concern, as their dividend varies with the amount of profits available. This ratio is calculated as under :

$$\text{Return on Equity Capital} = \frac{\text{Net Profit after Tax- Preference Dividend}}{\text{Equity Share Capital (Paid-up)}}$$

Return on Capital employed :

This ratio is the prime test of efficiency of a business. The Term Capital employed refers to the total investments made in a business i.e., sum of Fixed assets, Investments inside the business, All current Assets. This ratio is calculated as under :

$$\text{Return on Capital Employed} = \frac{\text{Adjusted Net Profit}}{\text{Capital employed}} \times 100$$

Dividend – Payout Ratio :

This ratio is calculated as shown below :

$$\text{Dividend -Payout Ratio} = \frac{\text{Proposed Dividend}}{\text{Net Profit}} \times 100$$

Earnings Per Share :

This ratio is a good measure of profitability and this gives an idea about the comparative earning capacity of a business firm. It is calculated as under :

$$\text{Earnings per Share (EPS)} = \frac{\text{Net Profit after Tax - Preference Dividend}}{\text{Number of Equity Shares}}$$

Price Earning Ratio :

This ratio gives an estimation of appreciation in the value of a share of a company and is widely used by investors to decide whether to buy or not to buy shares from a particular company. This ratio is calculated as under:

$$\text{Price Earning Ratio} = \frac{\text{Market Price per Equity Share}}{\text{Earnings per Share}}$$

B. CASHFLOW AND FUNDFLOW STATEMENT :

A Cashflow statement is a statement which explains the reasons for inflows or outflows of a cash and depicts change in cash position from one period to another. Cashflow in financial analysis means

net income after adding back expense items which currently do not use funds, such as depreciation. This measure is typically referred to as internally generated funds or cash throw-off and is more commonly known as cash flow. The net income is calculated on cash basis. The concept of cashflow can be used effectively as one of the major factors in judging the ability to meet debt-retirement requirements, to maintain regular dividends and to finance replacement and expansion costs.

Cashflow statement is a statement of changes in financial position on cash basis. It summarises the causes of change in cash position of a business enterprise between two accounting periods. It describes sources and uses of cash.

From the point of view of preparation of cash flow statement, the concept cash stands for cash in hand and bank balances which form just one component of current assets or working capital. The concept flow of cash means movement of cash, which may take the form of outflow of cash (movement of cash out of the organisation) or in flow of cash (movement of cash into the organisation)

Types of Cash Flow

Cash Flow may be mainly classified into two main categories:

- 1) Internal Cash Flow
- 2) External Cash Flow

Internal Cash Flow:

Internal Cash flow represents (the receipts of cash and payment of cash) the inflow of cash and outflow of cash that take place in the course of conducting (main activity of the business) the business operation. A number of transactions, such as purchase of goods for cash, payment of salaries, rent, electricity charges, telephone bill, etc., cause the outflow of cash. While sale of goods for cash, receipt of commission etc., can be inflow of cash.

It is important to note that, where a business is conducted both on cash and credit basis, in addition to the actual cash transactions, which directly cause flow of cash, the credit transactions over a period affecting the current assets and current liabilities do cause the flow of cash indirectly. Which is aptly known as notional cash flow.

External Cash Flow:

The flow of cash that take place in a business due to purchase or sale of fixed assets, intangible assets, investments, issue of shares and debentures and redemption of debentures and preference shares, receipt or payment of interest and dividend etc., constitute the external cash flow.

Rules to identify the Flow of Cash:

For the purpose of understanding the rules, the accounts involved in a transaction are required to be classified as cash account and non cash account.

• **Rules as to where there is Actual Cash Flow:**

- (i) In a transaction, if the two accounts involved, belong to non-cash category, such transaction does not result in flow of cash.
- (ii) In a transaction, if both the accounts involved, belong to cash category, such transaction does not result in flow of cash.
- (iii) In a transaction, if one account belongs to cash category and other belongs to non cash category, such transaction results in flow of cash.

(Note: If in such transaction, cash account gets debited and the other account gets credited, such transaction causes inflow of cash, on the other hand, if in a transaction non cash account gets debited and cash account gets credited, such transaction results in outflow of cash).

• **Rules as to where there is indirect/Notional Flow of Cash:**

The following rules are applicable only with respect to current assets (other than cash and bank) and the current liabilities.

- (i) Increase in a current asset without increase in current liability (except cash and bank) results in outflow of cash.
- (ii) Decrease in a current liability without decrease in current assets results in outflow of cash.

- (iii) Decrease in a current asset without decrease in current liability (except cash and bank) results in inflow of cash.
- (iv) Increase in a current liability without increase in current asset results in inflow of cash.

Differences between Cash Flow Statement and Fund Flow Statement:

	Cash Flow Statement	Fund Flow Statement
1.	.It is based on cash concept.	It is based on the concept of working capital
2.	It explains the causes for the change in the cash position between the two balance sheet dates.	It explains the causes for the change in net working capital position between the two balance sheet dates.
3.	It deals with just only one item of current assets namely cash .	It deals with all items of current assets and current liabilities.
4.	No schedule is prepared while preparing Cash Flow Statement.	A schedule of changes in working capital is prepared while preparing Fund Flow Statement.
5.	Improvement in cash position results in improvement of funds position.	Improvements in funds position may not necessarily result in improvement of cash position.
6.	Increase in current liabilities and decrease in current assets (other than cash) will result in increase in cash position and vice-versa.	Increase in Current liabilities and decrease in current assets result in decrease in working capital position and vice-versa.
7.	Cash Flow statement is useful for analysing the financial conditions of a business unit, for a short term period.	Funds flow statement is useful for analysing for comparatively long term period.
8.	Cash Flow Statement starts with opening cash balance and ends with closing balance of cash representing the sources from where cash is mobilised and the purposes for which cash is utilised.	Fund Flow statement tallies the fund generated from various sources with various uses to which they are put.

The format of the Cashflow statement annexed to Balance sheet of KPTCL /ESCOMS is as shown below :

Cash Flow Statement Annexed to the Balance Sheet for the period April - March

Particulars	Amount in Rs	
<u>A CASH FLOW FROM OPERATING ACTIVITIES:</u>		
Net Profit before tax as per Profit & Loss Account		
<u>Adjustments for :</u>		
Depreciation (net)		
Finance and Other Charges		
Interest on Investment		
Other Income		
Income Tax		
Contributions, grants & subsidies towards cost of capital assets		
Prior period and Extraordinary items		
Operating Profit before working capital changes		
<u>Adjustments for :</u>		
Changes in Stores & spares		
Changes in Sundry Debtors		
Changes in Loans & Advances		
Changes in Other Receivables		
Changes in Current liabilities & provisions		
Operating Profit after working capital changes		
Prior period and Extraordinary items		
Deferred Expenditure		
Net cash inflow from Operating Activities		XXXXX
<u>B CASH FLOW FROM INVESTMENT ACTIVITIES</u>		
Changes in Fixed Assets (Net of Assets sales and losses)		
Changes in Capital Work in Progress		
Sale /(Purchase) of Investments		
Interest on Investment		
Net cash inflow from Investment Activities		XXXXX
<u>C CASH FLOW FROM FINANCING ACTIVITIES:</u>		
Changes in Share Capital/ Share Deposits		
Changes in Secured Loans		
Changes in Unsecured Loans		
Changes in Capital Reserves		
Changes in Deposit Contribution works		
Other Income		
Finance and other Charges		
Net Cash used in financing activities		XXXXX
Net Change in Cash and Cash equivalents (A+B+C)		XXXXX
Add: Opening Cash and Cash Equivalents as on 1.4.....		XXXXX
Closing Cash and Cash Equivalents as on 31.3.....		XXXXX

T A R I F F

T A R I F F A N D R E G U L A T O R Y I S S U E S

The Electricity Act, 2003

Main Features :

Generation delicensed:

Thermal generation does not need clearance from CEA. Only large or inter-state Hydel projects need this.

Captive Generation :

Setting up captive generation does not need permission. Captive generation can be set up by a group or society to meet the needs. The captive plants can be located off-site (far from the consumption point).

Transmission:

Transmission utility at the central level will continue to hold responsibility of coordinating planning of the transmission network. These utilities or the State governments would look after load dispatch (scheduling of plants, maintenance etc.,)

Private participation:

Private companies can build Transmission lines for captive use or for common use.

Open Access:

Any generating station will get access to the transmission system at a fee, subject to capacity availability. They will have to pay a fee to the transmission utility (called wheeling charges) and charges for load dispatch center. Bulk consumers including DISCOMs can take advantage of Open Access by purchasing the wheeled power. Large consumers will have to pay a surcharge to cover cross subsidy, except in case of the captive generating stations. The State Regulatory Commission may permit Open Access in distribution in phases and can levy a

surcharge on users buying power through open access. This will be utilised to cover cross subsidy in that area.

Distribution:

Distribution licensees are free to undertake generation & generation companies are free to undertake distribution license. The commission can allow multiple licenses in the area of a distribution licensee. Transmission Licensee should not engage in generation and distribution.

Stand Alone System:

For rural and remote areas, stand alone systems for generation and distribution are allowed. Distribution managed through Panchayats, user associations, Co-operatives or Franchises would also be permitted without needing license (in state government notified areas).

Trading:

Power trading is being recognised as an activity that can be taken up after authorisation of Regulatory Commissions. The Regulatory Commissions would issue license and fix ceilings of trading margins. Distribution licensees and state governments do not require license to carry out trading.

Open Access:

After open access is allowed, consumer can enter into direct commercial relationship with a generating company or Trader. In such a case, the price of power will not be regulated, but the transmission charges (called wheeling charges) and surcharge would be paid by the consumer.

Unbundling:

State governments can un-bundle SEB's and create companies. At the minimum, the transmission activity needs to be separated from SEB. All states should have Regulatory Commissions.

Tribunal:

An Appellate Tribunal will be created at the centre for disposal of appeals against directions of CERC and SERCs

Theft:

Strict provisions laid down to deal with power theft.

Tariff:

Tariff would be along commercial principles to encourage competition and efficiency. Multi year tariff (MYT) formulation is suggested with gradual elimination of subsidies. Metering to be 100% in a few years time. Time of the Day tariff to be introduced in a phased manner.

National Electricity Plan:

Central Government would bring out National Electricity Policy, Tariff Policy, National Policy on stand alone systems for rural areas and a National policy on electrification and local distribution in rural areas. CEA shall prepare National Electricity Plan (NEP).

Provisions relating to TARIFF in the Electricity Act, 2003 (As laid down in Part VII – Tariff)

Appropriate Commission specify terms and conditions for the determination of tariff and guided by the following :

- The principles and methodologies specified by the CERC for generation and transmission tariff
- Generation, Transmission and Distribution are conducted on commercial principles.
- Factors which would encourage competition, efficiency and economic use of resources.
- Safeguarding consumers interest and recovery of cost of electricity in a reasonable manner.
- Principles of rewarding efficiency in performance.
- MYT principles.
- Cost reflective, reduce/eliminate cross Subsidies.
- Promotion of cogeneration and generation from renewable sources of power
- National Electricity Plan (NEP) / Tariff Policy
- Determination of Tariff

Appropriate Commission (AC) determine tariff for :

- Supply of electricity by generating company to distribution license
- Transmission of electricity
- Wheeling of electricity
- Retail sale of electricity

- 120 ?
- AC require license to furnish separate details in respect of generation, transmission and distribution.
 - AC.. no undue preference to any consumer but may differentiate according to connected load, power factor, voltage, total consumption of electricity during any specified period or geographical area, nature and purpose of supply.
 - No Tariff or part may ordinarily be amended more frequently than once in any financial year. (Except fuel surcharge formula)
 - Commission require licensee to comply with the procedure for calculating ERC
 - Determine the tariff by bidding process (adopt the tariff if same has been determined by transparent bidding process according to guidelines)
 - Procedure for Tariff Order
 - Application by GC/Licensee.. for determination of tariff.
 - Form of application as specified by AC
 - AC within 125 days from receipt of application issue TO, or reject the application recording reasons in writing.
 - AC within 7 days of the Order send the same to appropriate Govt, CEA and the concerned licensee and persons concerned.
 - Provisions relating to inter-state supply, transmission and wheeling of electricity, determined under this section by SC having jurisdiction in respect of licensee who intends to distribute electricity and make payment therefor.
 - Provision for subsidy by State Govt.
 - If SG require the grant of any subsidy to any consumer or class of consumers in the tariff determined by SC, pay in advance the amount to compensate the person affected by the grant of subsidy in the manner SC may direct as a condition for the licensee
 - No such direction shall be operative if payment is not made in accordance with the above provision and the tariff fixed by SC shall be applicable from the date of issue of the order by the Commission in this regard.
 - Development of market
 - AC shall endeavor to promote the development of a market and guided by the NEP.

KERC (Tariff) Regulations, 2000
(Incorporating amendments dated 15.3.01, 3.8.01, 18.9.02 and 12.5.04)

KARNATAKA ELECTRICITY REGULATORY COMMISSION, BANGALORE

NOTIFICATION

THE 9 JUNE, 2000

Statement of Objects and Reasons:

The Karnataka Electricity Reforms Act, 1999 (Act No.25 of 1999) requires that the holder of each licence granted under the Act shall observe the methodologies and procedures specified from time to time, in calculating the expected revenue from charges which it is permitted to recover pursuant to terms of its licence and in designing tariffs to collect such revenues. Every licensee has to provide to the Commission, at such time and in such manner as may be specified in regulations, full details of its calculations for the ensuing financial year of the expected aggregate revenue from charges which it is permitted to recover pursuant to the terms of its licence and such other information as the Commission may specify. The Commission has taken up the framing up of these Regulations in pursuance of the above provisions of the Act.

In designing the scheme contained in these Regulations, the Commission expects to achieve the following objectives:

- a) To inform licensees of the basic minimum data and information requirements for seeking the Commission's approval to the expected revenue from charges and for any proposal of modification of the tariffs.
- b) To provide standardized formats in which such information is to be provided.
- c) To specify the procedure by which the Commission would take up the ERG filings and Tariff filings for consideration before according its approval thereto.
- d) To ensure the greatest possible transparency in such procedure and the fullest possible opportunity for all concerned to participate in such a process.

Regulations:

In exercise of the powers conferred on it by Section 56 of THE KARNATAKA ELECTRICITY REFORM ACT, 1999 (Act No.25 of 1999) and all powers enabling it in that behalf, the Karnataka Electricity Regulatory Commission hereby makes the following regulations, namely: **The Karnataka Electricity Regulatory Commission (Tariff) Regulations, 2000**

Chapter - I

GENERAL

1. Short title, Commencement and Extent:

- (1) These Regulations may be called the Karnataka Electricity Regulatory Commission (Tariff) Regulations, 2000.
- (2) They shall come into force from the date of their publication in the official Gazette.
- (3) They extend to the whole of the State of Karnataka

2. Definitions:

- (1) In these Regulations, unless the context otherwise requires:
 - (a) 'Act' means Electricity Act, 2003.
 - (b) 'Chairman' means the Chairman of the Karnataka Electricity Regulatory Commission;
 - (c) 'Commission' means the Karnataka Electricity Regulatory Commission;
 - (d) 'ERC' means the Expected Revenue from Charges that a Licensee is permitted to recover pursuant to the terms of its Licence;
 - (e) 'General Regulations' mean the Karnataka Electricity Regulatory Commission (General and Conduct of Proceedings) Regulations, 2000;
 - (f) "KER Act" means Karnataka Electricity Reforms Act, 1999.
 - (g) 'Licensing Regulations' mean the Karnataka Electricity Regulatory Commission (Licensing) Regulations, 2000.

(2) Words or expressions used in these Regulations and not defined herein above shall bear the same meaning as in the Act or KER Act or in the General Regulations and in case of any inconsistency, the provisions of the Act shall prevail.

Chapter – II

ERC AND TARIFF FILING

3. Annual ERC Filing:

(1) Not later than 4 months before the commencement of any financial year, every Licensee shall provide to the Commission full details of its calculations for the ensuing financial year of the ERC for that year.

(2) The details of calculations of ERC and other related information shall be provided in the formats prescribed in Annexe I to these Regulations and shall be provided for each of the financial years as directed by the instructions given in each of these formats.

(3) Where any entity holds more than one category of Licence, the details in the formats in Annexe I have to be filed separately in respect of each Licence.

(4) Where the profit and loss account in Form A1 of ERC discloses a net revenue deficit for the ensuing year, the licensee shall explain as to how this deficit will be met. If tariff revision is contemplated by the licensee as one of the measures required to meet the deficit, the licensee shall accordingly file an application for tariff revision along with the ERC to cover the deficit to the extent necessary. In no situation should the ERC be filed without proposing measures adequate for covering the deficit. Where the ERC filing does not satisfy this stipulation, it will be liable to be rejected outright.

(5) The ERC filing shall clearly indicate the steps taken by the licensee for improvement of its efficiency since the date of order of the Commission on the previous ERC.

(6) The proposed investment plan for the ensuing financial year shall be submitted by the Licensee along with ERC as per the terms of the Licence for approval by the Commission. The investment plan will include all capital expenditure for the concerned year, whether ongoing projects or new projects.

(7) The details of calculations of ERC in the formats in Annexe I have to be filed by the Licensee in 6 sets with each format being signed by an authorized officer of the Licensee who shall be responsible for verifying and certifying the

correctness thereof. In addition to the hard copies of the ERC formats, the Licensee has also to furnish the said formats in Electronic forms in diskettes using the MS Excel spread sheet package.

(8) The ERC formats filed by the Licensee will be scrutinized by the Commission and, as a result of such scrutiny, the Commission may, within 15 working days, call for such further information and clarifications as it may deem fit.

(9) The ERC formats filed by the Licensee will be treated as a Petition upon the Commission deciding that all the information and clarifications sought for by it have been produced to the satisfaction of the Commission. The licensee will thereafter be informed of this decision.

(10) The Commission will thereafter follow, as far as may be practicable, the procedure specified in Chapter II of the General Regulations for hearing on the ERC filing and for passing orders thereon.

4. Tariff Filing:

(1) The Commission may, on its own, on being satisfied that there is need to review the tariff of any Licensee, shall initiate the process of review in accordance with the procedures set out in chapter II of the General Regulations.

(2) If any licensee desires revision of the current tariffs, an application for determination of tariff under section 62 of the Act shall be made by the licensee accompanied by such fee as determined in KERC (Fees) Regulations 2004; provided that no tariff or part of any tariff may ordinarily be amended, more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified by the Commission. Provided further that the application for amendment of tariff shall be filed not later than 120 days before the date of proposed implementation of such amended tariff.

(3) Omitted

(4) The details of calculations of proposed Tariff shall be in the formats in Annex II and have to be filed by the Licensee in 6 sets with each format being signed by an authorized officer of the Licensee who shall be responsible for verifying and certifying the correctness thereof. In addition to the hard copies of the formats, the Licensee has also to furnish the said formats in Electronic forms in diskettes using the MS Excel spread sheet package.

(5) The licensee's application for amendment of tariff shall contain the following:

(i) A statement of the current tariffs and charges, that are proposed to be amended, together with all applicable terms and conditions;

(ii) A statement of amendments proposed, with the proposed tariffs and proposed terms and conditions;

(iii) A statement of the estimated change in the annual gross revenue that would result in the ensuing financial year, from the proposed amendments, stated in Rupees and as percentage of annual revenue from existing tariffs. This change in annual revenue should be shown for the licensee as a whole and for each tariff category affected;

(iv) An embedded cost study showing the cost of service of supply of electricity to each consumer category;

(v) An analysis of the effect of the proposed tariff changes on the average as well as typical small, medium and large consumers in each affected tariff category and the changes in annual bills and monthly bills by season (where applicable) in both Rupees and percentage terms;

(vi) A statement of any proposed cross subsidy including the amount of such subsidy to the affected consumer category and the source of offset of this subsidy, (e.g. other consumer category/categories);

(vii) A comparison of the percentage of cost of service expected to be recovered in the ensuing financial year by the current and proposed tariff for each consumer category;

(viii) A written explanation of the rationale for the proposed tariff changes, including justification of the rate of return being proposed;

(ix) A statement of any subsidy committed by the Govt. of Karnataka, the consumers to whom it is directed, and the way in which such subsidy is proposed to be reflected in the proposed tariffs applicable to these consumers;

(x) Any other information as required by the Commission.

(6) Within 15 working days of the receipt of Tariff Filing, the Commission shall notify the licensee whether any additional information is required by the Commission to assess the licensee's calculations, specifying the date by which such information is to be filed.

(7) The tariff filing formats filed by the licensee will be treated as a petition upon the Commission deciding that all the information and clarification sought for by it have been produced to the satisfaction of the Commission.

(8) The Commission will thereafter follow, as far as may be practicable, the procedure specified in Chapter-II of the General Regulations for Hearing on the Tariff Filing and for passing orders thereon.

5. Publication of the petition;

(1) The Licensee shall arrange for publication of a Petition on ERC Filing or Tariff Filing in the following manner:

(a) The summary of the Petition, in such format as may be approved by the Commission, shall be published in two successive issues each of two daily news papers in English language and two daily news papers in Kannada language having a circulation in the area of operation of the Licensee. The advertisement should invite interested persons to file their objections and such documents as they seek to rely upon, supported by an Affidavit, in six copies, within 30 working days of the first advertisement and also indicate whether they would like to be heard in person by the Commission.

(b) The Licensee shall also specify in the advertisement that interested persons may inspect the copies of the petition at specified offices of the Licensee during normal working hours within 10 working days of the publication of the notice and also obtain the salient feature of the petition at such specified place on payment of cost of photocopying.

(c) The Licensee shall also mention in the advertisement that the full set of the application together with supporting materials would be made available to any interested person who may ask for it on payment of cost of photocopying.

6. Commission's Powers for verification:

(1) The Commission may get the books and records of the utilities concerned examined by its officers and/or by any authorized person at any point of time during the pendency of the petition or otherwise. The report of the officers/consultants shall be made available to the parties concerned and they shall be given opportunity to react on the reports. The Commission shall duly take into account the report or the opinion given by the officers and/or by any authorized person and the reply filed by the parties while deciding the matter and if considered necessary the examination before the Commission of the person giving the report or the opinion.

(2) The utilities shall submit periodic returns as may be prescribed containing operational and cost data to enable the Commission to monitor the implementation of its order and reassess the bases on which Tariff was approved.

(3) All filings should be in conformity with the stipulations in the Licensing regulations and the conditions of the Licence.

**Chapter - III
Miscellaneous**

7. Saving of inherent power of the Commission:

(1) Nothing in these Regulations shall be deemed to limit or otherwise affect the inherent power of the Commission to make such orders as may be necessary for ends of justice or to prevent abuse of the process of the Commission.

(2) Nothing in these Regulations shall bar the commission from adopting in conformity with the provisions of the Act a procedure, which is at variance with any of the provisions of these Regulations, if the Commission, in view of the special circumstances of a matter or class of matters and for reasons to be recorded in writing, deems it necessary or expedient for dealing with such a matter or class of matters.

(3) Nothing in these Regulations shall, expressly or impliedly, bar the Commission dealing with any matter or exercising any power under the Act for which no Regulations have been framed, and the Commission may deal with such matters, powers and functions in a manner it thinks fit.

By order of the Commission

**Sd/-
Secretary to Commission**

**KERC Regulations and Blank formats to be filled while filing
ERC is available on website 'kercc.org'**

Forms for Filing ERC			
SI No	Item	Transmission Form No	Distribution Form No
1	Profit and Loss Account	A1	
2	Balance Sheet	A2	
3	Cashflow Statement	A3	
4	Aggregate Revenue Requirement	A4	
5	Cost of Purchased power	T1	D1
6	Revenue from Sale of power	T2	D2
7	Revenue from Subsidies and Grants	T3	D3
8	Non-tariff Income	T4	D4
9	Repairs and maintenance costs	T5	D5
10	Employee costs	T6	D6
11	Employee costs- Additional information	T6A	D6A
12	Administration and General charges	T7	D7
13	Depreciation	T8	D8
14	Loans and Debentures and interest charges	T9	D9
15	Sale and Leaseback of Assets	T9A	D9A
16	Details of expenses capitalised	T10	D10
17	Other Debits	T11	D11
18	Extraordinary items	T12	D12
19	Net prior period credits/(Charges)	T13	D13
20	Contributions, Grants and subsidies towards cost of capital Assets	T14	D14
21	Gross Fixed Assets	T15	D15
22	Net Fixed Assets	T16	D16
23	Work in progress (Capital expenditure)	T17	D17
24	Receivables against Sale of Power (DCB)	T18	D18
25	Tariff categorywise DCB	-	D18A
26	Energyflow diagram for Transmission and distribution system	T19	D19
27	Commercial Losses Identified and Assessed for the period from To	T19A	D19A
<p>Note: Information in respect of all the above forms shall be furnished for the previous year, current year and ensuing year. Information shall be furnished as follows:</p> <p style="margin-left: 40px;">Previous year - Actual and audited</p> <p style="margin-left: 40px;">Current year - First six months duly audited - Second six months estimated</p> <p style="margin-left: 40px;">Ensuing year - Estimated</p>			

PROFIT & LOSS ACCOUNT

(Rs in Crs)

Ref Form- No	PARTICULARS	Previous year			Current year			Ensuing year		
		Transmission	Distribution	Total	Transmission	Distribution	Total	Transmission	Distribution	Total
T1/D1	ENERGY AVAILABLE (MU)									
T2/D2	ENERGY SOLD (MU)									
	T & D LOSS (%)									
	INCOME									
T2/D2	REVENUE FROM SALE OF POWER									
T3/D3	REV SUBSIDIES & GRANTS *									
T4/D4	OTHER INCOME									
	TOTAL									
	EXPENDITURE									
T1/D1	PURCHASE OF POWER									
T5/D5	REPAIRS & MAINTENANCE									
T6/D6	EMPLOYEES COSTS									
T7/D7	ADM & GENERAL EXPENSES									
T8/D8	DEPRECIATION AND RELATED DTS									
T9/D9	INTEREST & FINANCE CHARGES									
	SUB-TOTAL									
T10/D10	LESS: EXPENSES CAPITALISED:									
	-INTEREST & FINANCE CHARGES CAPITALISED									
	-OTHER EXPENSES CAPITALISED									
	SUB-TOTAL									
T11/D11	OTHER DEBITS									
T12/D12	EXTRAORDINARY ITEMS									
	TOTAL EXPENDITURE									
	PROFIT (LOSS) BEFORE TAX									
	PROVISION FOR INCOME TAX									
	PROFIT (LOSS) AFTER TAX									
T13/D13	NET PRIOR PERIOD CREDITS									
	SURPLUS/DEFICIT(-)									
T17/D17	NET ASSETS AT THE BEGINNING OF THE YEAR (LESS CONSUMER'S CONTRIBUTION)									
	RATE OF RETURN									
* The amount of Subsidy committed to be given by Government should alone be shown here.										

BALANCE SHEET AS AT THE END OF THE YEAR

From-A2

Ref Form- No	PARTICULARS	(Rs in Crs)								
		Previous year			Current Year			Ensuing year		
		Transmission	Distribution	Total	Transmission	Distribution	Total	Transmission	Distribution	Total
	SOURCES OF FUNDS:									
	SHAREHOLDER'S FUNDS:									
	SHARE CAPITAL									
	RESERVES & SURPLUS									
	Total									
T9/D9	LOAN FUNDS:									
	LOANS FROM STATE GOVT									
	LOANS FROM OTHERS- SECURED									
	LOANS FROM OTHERS- UNSECURED									
	Total									
T14/D14	CONTRIBUTIONS, GRANTS & SUBSIDIES TOWARDS COST OF CAPITAL ASSETS									
	GRAND TOTAL									
	APPLICATION OF FUNDS:									
	NET FIXED ASSETS:									
T15/D15	a) GROSS BLOCK									
T8/D8	b) LESS: ACCUMULATED DEPRECIATION									
T16/D16	c) NET FIXED ASSETS									
T17/D17	d) CAPITAL WORK IN PROGRESS									
	e) ASSETS NOT IN USE									
	f) DEFERRED COSTS									
	g) INTANGIBLE ASSETS									
	TOTAL OF (c) TO (g)									
	INVESTMENTS									
	SUBSIDY RECEIVABLE FROM GOVT.									
	NET CURRENT ASSETS:									
	A. CURRENT ASSETS, LOANS & ADVANCES									
	a) INVENTORIES									
T18/D18	b) RECEIVABLES AGAINST SALE OF POWER									
	c) CASH & BANK BALANCES									
	d) LOANS & ADVANCES									
	e) SUNDRY RECEIVABLES									
	TOTAL OF A									
	B. CURRENT LIABILITIES AND PROVISIONS:									
	a) SECURITY DEPOSIT FROM CONSUMERS									
	b) BORROWINGS FOR WORKING CAPITAL									
	c) PAYMENTS DUE ON CAPITAL LIABILITIES									
	d) OTHER CURRENT LIABILITIES									
	TOTAL OF B									
	NET CURRENT ASSETS (A - B)									
	GRAND TOTAL									

Note: For the projections of current assets and current liabilities, working showing the calculations along with assumptions upon which they are based should be attached.

CASH FLOW STATEMENT FOR THE YEAR

(Rs in Crs)

SL NO	PARTICULARS	Previous year			Current year			Ensuing year		
		Transmission	Distribution	Total	Transmission	Distribution	Total	Transmission	Distribution	Total
	CASH FLOW STATEMENT FOR THE YEAR									
I	Net Funds from Operations:									
1	Net Funds from Earnings:									
	A. Profit before Tax and before Revenue Subsidies & Grants									
	Less: Income Tax payment during the year									
	Total of A									
	B. ADD: Debits to Revenue Account not requiring Cash Outflow:									
	(i) Depreciation									
	(ii) Amortisation of Deferred Cost									
	(iii) Amortisation of Intangible Assets									
	(iv) Investment Allowance Reserve									
	(v) Others, if any.									
	Total of B									
	C.LESS: Credits to Revenue Account not involving Cash Receipts:									
	(i) Depreciation									
	(ii)									
	Total of C									
	Net Funds from Earnings (A+B-C)									
2	Contributions, Grants and Subsidies towards Cost of Capital Assets									
3	Security Deposit from consumers									
4	Proceeds from disposal of Fixed Assets									
5	Total Funds from Operations (1+2+3+4)									
6	Net Increase/(Decrease) in Working Capital:									
	A. Increase/(Decrease) in Current Assets:									
	a) Inventories									
	b) Receivables against sale of power									
	c) Loans and Advances									
	d) Sundry Receivables									
	Total of A									
	B. Increase/(Decrease) in Current Liabilities:									
	a) Borrowings for working capital									
	b) Other Current liabilities - Power purchase - Others									
	Total of B									
	Net Increase/(Decrease) in Working Capital (A - B)									
7	Net Funds from Operations before Subsidies & Grants (5-6)									
8	Receipts from Revenue Subsidies and Grants									
Total	Net Funds from Operations Including Subsidies & Grants (7+8)									

C O S T I N G

Cost indicates the amount of expenditure incurred . Every Organisation is interested in knowing how much money is coming into the Company and how it is flowing. Though this is available in Financial Statements like Profit and loss Account and Asset and Liability statements, it will not provide deeper insight into the Profit or loss earned by the company.

With an example, the difference between Financial Accounting and Cost Accounting is made clear as under.

As per Financial Accounting (based on P&L Account) the performance of an Organisation is :

Purchase of Materials	Rs. 20,000
Wages paid	Rs. 15,000
<u>Other expenses</u>	<u>Rs. 18,000</u>
Total Cost	Rs. 53,000
<hr/>	
Sales	Rs. 60,000
<hr/>	
Profit	Rs. 7,000

The above statement reveals the overall profit earned by the company. But, it does not clearly indicate, which product has contributed to the profit or otherwise (assuming it as a multi-product company).

As per the Cost Accounting system, the performance of the same Company is analysed preparing cost sheet for each product and then consolidating the same as shown below :

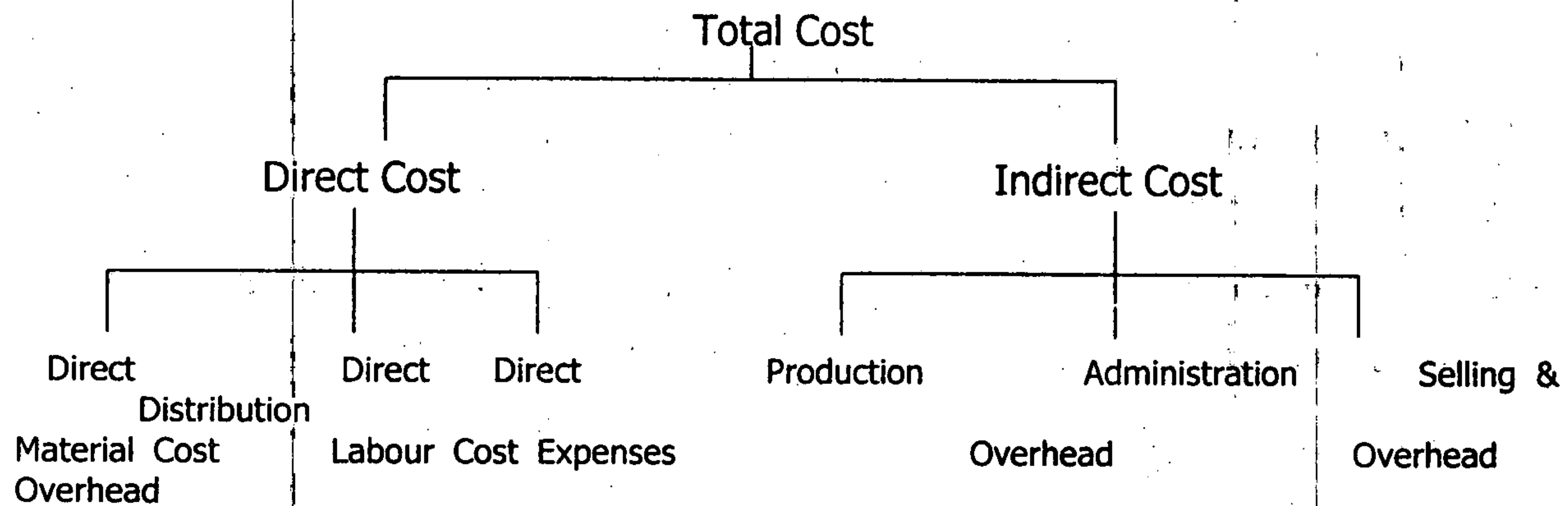
	Product A	Product B	Product C	Total
	(Rs.)	(Rs.)	(Rs.)	(Rs.)
Purchase of Materials	7,000	8,000	5,000	20,000
Wages paid	8,000	5,000	2,000	15,000
Other expenses	10,000	6,000	2,000	18,000
Total Cost	25,000	19,000	9,000	53,000
Sales	30,000	18,000	12,000	60,000
Profit	5,000	-1,000	3,000	7,000

The above analysis implies that certain hidden inefficiencies or positive performance aspects cannot be disclosed by Financial Accounting unlike

Cost Accounting. Hence Cost Accounting will strengthen the hands of Management with proper analysis enabling taking right decisions.

Elements of Cost :

The three elements of cost are : 1) Material 2) Labour and 3) Other Expenses. Total Cost = Material Cost + Labour cost + Other expenses. The Direct and Indirect costs are further classified as follows :



Direct costs are those Costs, which can be directly identified with the Cost Centre, Product or Job. Whereas, Indirect costs cannot be directly identified with the Cost Centre, Product or Job. (Cost center is a location, person, item of equipment for which cost may be ascertained).

Direct and Indirect material cost :

Direct material is the material which becomes a part of the product. There are some materials which become a part of the product, but are used in comparatively small quantities and have negligible costs. In such cases, the material will be classified as indirect materials and the cost incurred will be accounted under Indirect cost. Following are the examples of direct material :

- Materials, including component parts, specially purchased or requisitioned for a particular job, order or process.
- Materials passing from one operation or process to another.
- Primary packing materials such as cartons, cardboard boxes etc.,

Direct Labour cost (Direct Wages) :

Direct Labour is the cost which can be identified with and allocated to cost centers and cost units. Payment of the following groups of Labour fall within the definition of Direct wages :

- Labourers engaged in altering the condition, conformation and composition of the Product.
- Inspectors, analysts etc., specifically required for such production.
- If specifically identified, the wages of foremen, chargehands, shop clerks, the wages of internal transport personnel, etc.,

The following terms are used in the same sense as Direct Wages : Direct Labour; Prime cost Labour; Process Labour Cost; Operating Labour Cost.

Direct Expenses :

Direct expenses are the expenses (Other than direct material cost or direct wages) which can be identified with and allocated to cost center or cost units. Following groups of expenses fall within the definition of Direct Expenses :

- Cost of special designs, drawings and layout.
- Hire of special tools or equipments for a particular job.
- Maintenance costs of such tools and equipments.

The following terms are used in the same sense as ***Direct expenses*** : ***Chargeable expenses ; Process expenses; Productive expenses; Prime Cost expenses.***

Indirect Costs :

Indirect costs are those expenses which cannot be easily, conveniently and economically be identifiable and allocable to Cost Center. In other words, indirect costs are those expenses which are required to help in manufacturing, administration, selling and distribution.

Production Overheads :

Production or factory overhead includes all indirect material cost, indirect wages and indirect expenses incurred in the factory from the receipt of the order until its completion and is ready for dispatch.

The following groups of indirect items fall within the category of *Factory over head* :

- a) **Indirect material** : Indirect material is the material that cannot be traced in the finished products such as consumable stores E.g., lubricants, cotton wastes, grease, oils, small tools and works stationery. However, small minor items of material which enter into production and form part of it are conveniently treated as indirect material, such as, cost of thread in shirt making, cost of glue in cardboard boxes etc., All indirect material costs relating to factory become part of factory overhead.
- b) **Indirect Wages** : Wages that are not charged directly are called Indirect wages. In general, salaries or wages of the following are treated as indirect wages. Foremen, supervisors, chargehands, inspector, general labour, maintenance labour, works clerical staff, indirect labour in drawing and design office, internal transport, tool room and other services.
- c) **Indirect Expenses** : Expenses (other than indirect material and labour) that are not charged directly to production are indirect expenses. Following are treated as indirect factory expenses :-
- Rent, rates and insurance in relation to factory;
 - Depreciation, power and fuel; repairs and maintenance of plants, machinery and buildings;
 - Sundry expenses for other services including employment office, first aid, rewards for suggestions for welfare etc.,

The following terms are used in the same sense as **Production overheads** :

Factory Overheads; Works overhead; Factory on Cost ; Works on cost.

Therefore, cost of a product can be arrived as shown below :

$$\begin{array}{rcl}
 \text{Material cost} & = & \text{Direct Material cost} + \text{Indirect Material cost} \\
 & & + \qquad \qquad \qquad + \\
 \text{Labour cost} & = & \text{Direct Labour Cost} + \text{Indirect Labour Cost} \\
 & & + \qquad \qquad \qquad + \\
 \text{Other Expenses} & = & \text{Direct Expenses} + \text{Indirect Expenses} \\
 \hline
 \text{Total Cost} & = & \text{Prime Cost} + \text{Overheads} \\
 \hline
 \end{array}$$

Standard Costing :

Among the various possible ways that are followed with a view to maximize the profit, minimization of cost or exercising control over the cost

seems to be the best way. In order to control the cost a number of techniques are being employed. One such technique is **Standard Costing**.

Standard cost is a predetermined cost which is calculated from management's standards of efficient operation and the relevant necessary expenditure. Standard costs are not estimated costs, but scientifically developed costs based on technical estimates.

Standard costing involves following steps :

1. Establishment of standards
2. Predetermination of standard cost based on standards laid down.
3. Ascertainment of actual cost.
4. Comparison of actual cost with standard cost and identifying the variances.
5. Analysing the reasons for variances.
6. Taking the remedial or corrective action wherever necessary and even revising the standards.

Variance and Variance Analysis

Variance :

The deviation of the actual from the standard is known as variance. In other words, variance is the difference between the actual and standard set.

Variance Analysis :

Variance analysis is a process which involves computation of the variance and identifying the causes or reasons for such variance. Variance analysis helps to measure the efficiency or inefficiency of performance and helps to identify the persons or departments responsible for variance. By revealing the causes for such variance, it enables the management to correct the unfavourable aspects and plan the future events properly. It contributes for increasing the profits of an organisation by enabling the management to control the cost.

Variances can be classified as **Favourable** and **Unfavourable** variance. If the actual cost is less than the standard cost the difference is known as **Favourable variance**. On the other hand, if the actual cost is more than the standard cost, the difference is known as **Unfavourable** or **Adverse variance**.

Based on controllability, the variance may be classified as **Controllable** and **Uncontrollable** variance. If the variance is caused by a reason or a factor which can be controlled, such variance is known as **Controllable** variance. If the variance is caused by a reason or a factor, which is beyond the control of the organisation, such variance is known as **Uncontrollable** variance.

From the stand point of view of the elements in relation to which the variance is computed and analysed, the variances are broadly classified as follows:

- i) **Direct Material Cost variance** : The difference between standard direct materials cost and the actual cost of direct materials is known as direct material cost variance.
- ii) **Direct Labour Cost Variance** : The difference between standard labour cost and the actual labour cost is known as direct labour cost variance.
- iii) **Overhead Cost Variance** : The difference between the standard cost of over head and actual overhead cost is known as over head cost variance.
- iv) **Sales variance** : Sales variance is computed under two systems:
 - (a) Under turnover method, sales variance represents the difference between budget sales and the actuals sales.
 - (b) Under Profit method, sales variance represents the difference between budgeted profit and actual profit.

MARGINAL COSTING :

Marginal cost means "*the amount of any given volume of output by which aggregate costs are changed, if the volume of output is increased or decreased by one unit*". In other words, marginal cost refers to total cost minus fixed cost (per unit).

Example : To produce 100 units, if the total cost incurred is Rs. 1000 and by increasing production to 101 units or reducing the production to 99 units, if the total cost amounts to Rs. 1010 or 990 respectively, then the difference of Rs. 10 forms the Marginal Cost.

Marginal costing is a technique of cost accounting, which pays special attention to the behavior of costs with change in volume of output. It is a technique which is concerned with ascertainment of variable cost of product and finding out the effect of changes in volume of output on profit.

Assumptions of Marginal Costing

- Costs can be clearly bifurcated into Fixed and Variable Costs.
- Fixed cost remains constant at any level of output
- Variable cost changes with the change in volume of output
- Selling price per unit does not alter any level of activity.
- The excess of selling price over variable cost provide fund, called contribution that is needed to meet fixed cost and provides profit to the undertaking.

Absorption costing and Marginal Costing :

Under Absorption costing, cost of a product is ascertained by considering both fixed and variable cost. While in Marginal costing, the total cost is segregated into fixed and variable cost and the focus is on impact of change in volume on recovery of fixed and variable cost.

The presentation of cost under these two methods can be clearly explained with an example as follows :

XYZ Company produces and sells its product 'A'. Following are the related particulars :

Number of units sold	4,000
Selling Price per unit	Rs. 10/-
Direct Material Cost	Rs. 12,000/-
Direct Labour Cost	Rs. 5,000/-
Direct Expenses	Rs. 1,000/-

Overheads

Factory Overheads :	
Variable	Rs. 5,000/-
Fixed	Rs. 2000/-
Administration Overheads	

Variable	Rs. 2,000/-
Fixed	Rs. 1,500/-
Selling and Distribution Overheads	
Variable	Rs. 2,500/-
Fixed	Rs. 3,000/-

Statement of Cost and Profit under Absorption Costing

Particulars	Rs.	Rs.
Elements of Cost		
Direct Material Cost		12,000
Direct Labour Cost		5,000
Direct Expenses		1,000
Prime Cost		18,000
Factory Overheads		
Variable	5,000	
Fixed	2,000	7,000
Factory Cost		25,000
Administration Overheads		
Variable	2,000	
Fixed	1,500	3,500
Office Cost/ Cost of Production		28,500
Selling and Distribution Overheads		
Variable	2,500	
Fixed	3,000	5,500
Total Cost of Sales		34,000
Profit (Balancing Figure)		6,000
Sales (4,000 x Rs. 10)		40,000

Statement of Cost and Profit under Marginal Costing

	Rs.	Rs.
Sales (4,000 x Rs. 10)		40,000
Less : Variable Cost		
Direct Material Cost	12,000	
Direct Labour Cost	5,000	
Direct Expenses	1,000	
Factory Overheads	5,000	
Administration Overheads	2,000	
Selling and Distribution Overheads	2,500	27,500
Contribution		12,500
Less : Fixed Cost		
Factory Overheads	2,000	
Administration Overheads	1,500	
Selling and Distribution Overheads	3,000	6,500
Profit		6,000

Following are the differences noticed between Absorption Costing and Marginal Costing

- (1) Under Absorption Costing, all costs (Variable and Fixed) are charged to products, while under marginal costing variable costs are charged to Products, but the fixed costs are charged against Profits or Contribution.

- (2) There is scope for under recovery or over recovery of fixed overheads under absorption costing, or fixed overheads are apportioned on certain basis which may be arbitrary. While there is no scope for such arbitrary allocation of fixed overheads under Marginal costing as it excludes fixed cost from product cost.
- (3) Emphasis is on Profit (Sales – Total cost) under Absorption costing while emphasis is on contribution (Sales-Variable cost) under Marginal costing.

Cost – Volume –Profit analysis (CVP analysis/Break even Analysis)

CVP analysis is the study of implication of changes in volume of activity on costs, sales and profits. CVP is based on Marginal Costing Technique. Representation of CVP analysis upon the graph is known as Break even chart.

Break-Even-Point (BEP) :

The level of activity at which there will be no profit or no loss is called the Break Even Point.

The Break Even point can be computed using any of the following formulae

$$\text{Break Even Point} = \frac{\text{Fixed Cost}}{\text{Contribution per Unit}}$$

or

$$\text{Break Even Point} = \frac{\text{Fixed cost}}{\text{Contribution per unit}} \times \text{Selling price per unit}$$

or

$$\text{Break Even Point} = \frac{\text{Fixed cost}}{\text{Total Contribution}} \times \text{Total Sales}$$

or

$$\text{Break Even Point} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}}$$

$$\text{where P/V Ratio} = \frac{(\text{Sales-Variable Cost})}{\text{Sales}}$$

or

$$\text{Break Even Point} = \frac{\text{Total Fixed cost}}{1-(\text{Variable cost per unit/Selling Price Per Unit})}$$

Relevance of Marginal Costing in Power Sector :

The concept of marginal costing is very much relevant in power sector in general and in evaluating Two Part Tariff rates of power in particular. The absorption or traditional costing can be compared with the single part tariff and Marginal Costing method can be related to two part tariff. As most of the new generation capacity being added is based on two part tariff, the impact of Plant Load Factor (which is the level of activity or capacity utilization) on the Fixed and Variable component of tariff has to be scrutinized carefully in the process of decision making.

Activity Based Costing (ABC)

Activity Based Costing system first accumulates overhead costs for each of the activities of an organization, and then assign the costs of activities to the products, services, or other cost objects that caused that activity. ABC philosophy believes that all products and services are a bundle of activities and these activities consume resources or costs. If non-value added activities could be controlled or reduced and altogether eliminated then total cost would come down.

Activities are the processes or procedures that cause work and thereby consume resources.

Cost drivers reflect the demands placed on activities by products or other cost objects.

Scope of ABC :

1) ABC will provide more decision-useful information for the service industry, characterized by diversity in range of services provided. The strategic goal of ABC is to provide decision useful cost and profitability information for optimal pricing decisions, appropriate product mix and operational improvements by focusing on activities and cost drivers.

2) ABC will provide closer approximation of the cost of the product, than that provided by the traditional volume based costing system.

The modern ABC model has two dimensions ie., a costing dimension and a process dimension. The cost dimensions provide accurate cost by

measuring cost objects and the process dimension provides decision-useful information for ABC.

Elements of ABC system :

There are six elements of an ABC system . They are :

- 1. Resource Categories*
- 2. Resource Drivers*
- 3. Activities, Activity Pools and Activity Centres*
- 4. Activity Drivers*
- 5. Cost Object*
- 6. Direct Cost inputs*

1) Resource Categories :

These are the sources of cost that support activities eg. Office space, salaries & benefits, utilities etc., When a resource supports multiple activities, resource drivers are used to assign resource consumption to various activities.

2) Resource Drivers :

Resource Drivers establishes a relationship between resource costs and activity cost pools based on some measure of usage. They approximate the use of resources by activities., eg. Number of employees in a purchase department will have a positive relationship to salaries and benefits budgeted for the purchase department.

3) Activities :

Activity is an aggregation of highly related costs: Ex: making of purchase order is an activity. Associated tasks include processing purchase requisition, inviting tenders, evaluating them, making comparative statements etc., Assigning of costs results to fetch associated tasks which results in a cost pool for the activity. Activity center is an aggregation of related function for specific activity. Eg., Purchase of material receiving, Inspecting and storing etc., are all related and therefore grouped under material handling activity center.

4) Activity Drivers :

Activity drivers form the second stage of assignment of costs and is based upon " Cost and Effect" relationship between activity cost pools and cost objects.

5) Cost Objects :

Cost object is a final points to which costs are traced. Cost object could be defined as a project where the objective of a company is to optimize product-mix. Eg., Sales territory, customer contracts etc.,

6) Direct Cost inputs :

As under Traditional cost system, direct cost involved are examples of Direct cost inputs.

A few examples of activities and related specimen drivers are given below :

Activity	Specimen Cost Drivers
<i>Stores</i>	<i>Number of issues</i>
<i>Inspection</i>	<i>Number of supplies</i>
<i>Training</i>	<i>Level of people involvement</i>
<i>Personnel</i>	<i>Number of employees</i>
<i>Management Accounting</i>	<i>Number of variances from plan</i>
<i>Customer Services</i>	<i>Number of orders</i>

Activity Based Management :

Activity Based Management (ABM) emphasizes a company's ability to measure activities that create costs as the key to performance improvement. Its goal is to eliminate activities that do not add value and to perform more efficiently those activities that do add value.

Identifying value-added activities, re-engineering process in respect of activities, setting bench-marks for performance, developing moving targets for continuous improvement (kaizen as called by Japanese) etc., all these stages lead to an efficient Activity Based Management.

Thus ABCS is a powerful tool for process optimization and facilitates in achieving manufacturing excellence and global competitiveness. It provides data for strategic decisions (optimal product-mix, pricing, different design costs etc.) and is an efficient tool to achieve continuous improvement. ABC is a good communicator between various functions of the management. In the modern competitive and world class manufacturing environment, ABC is an indispensable, flexible and cost effective tool for excellence in all fields of management.

REVENUE

ENERGY AUDIT :

Energy Audit is keeping an account of Energy Input and the Energy realized

The energy Audit can be carried out at DTC (Distribution Transformer Center) level, Feeder level, O & M unit level, Sub-division /Division/ Circle/Zone/ ESCOM level depending on the requirement and focus.

Energy Audit facilitates in identifying the high loss areas and abnormal losses.

DTC – wise Energy Audit:

This is becoming a key performance evaluation parameter as it is the last point in our supply chain before energy reaches the consumer's installation. It is also construed as best micro-level management criteria as the result would point out specific area of supply contributing to high loss may be due to technical reasons or due to commercial loss by way of theft, pilferage, metering inaccuracies etc.,

Procedure :

Metering at DTC level is the key factor for carrying out the DTC-wise energy audit. Procedure that has to be followed to find out the energy loss at DTC level is as follows:

- 1) Input to the Transformer is obtained by DTC meter reading.
- 2) Consumption as per DCB or meter-reader-wise consumption is to be obtained for each category of consumption.
- 3) If all the installations under the DTC are not metered, then the consumption in respect of unmetered installations has to be assessed based on some reasonable realistic basis.
- 4) Now, the billed consumption = consumption recorded + assessed consumption.
- 5) The percentage of Energy loss will be calculated as follows :

$$\% \text{ Energy Loss} = \frac{(\text{Recorded consumption in DT} - \text{Billed consumption})}{\text{Energy Input}}$$

Energy Audit results and Corrective Action :

- After Carrying out the Energy Audit in respect of all DTCs in a O & M unit/ Sub-division, the list has to be arranged in descending order (using SORT function of MS-EXCEL).
- Keeping the allowable loss (say (2.5% in Urban DTCs and 5% in Rural DTCs) as the basis, the installations under DTCs having loss above this level are to be subjected to verification either by physical checking or meter calibration by the MT wing or both measures.
- The results of DTCs having negative loss should also be analysed to ascertain the reasons and correcting the problems.
- Based on the report from the MT wing after calibration action as suggested may be initiated.

Average Realisation Rate (ARR)

It is the rate at which a unit of energy realises revenue on accrual basis. It is computed by dividing 'Total Revenue/Demand' under each category by the 'Sales (Units)' to that category. It doesn't take into account the actual revenue collected (i.e., collections) from consumers.

Average Cost of Power Supply:

It is the pooled average cost of power supply per unit during a specified period. It is calculated by dividing total expenses (which includes power purchase cost, transmission expenses and distribution expenses) during the period from Net energy sold to Consumers during the period.

To be precise this has to be calculated for each category of consumers taking the embedded cost (or cost of power supply model) of supplying energy to respective category, which is not being done at present for want of category-wise cost incurred to supply electricity.

Cross Subsidy :

It is the revenue from certain category of consumers exceeding the Average cost of power supply to them. At present, the average pooled cost is used to compute the amount of cross-subsidy (i.e., total cost divided by total energy sales). The category of consumers generating this cross -subsidy are called 'Subsidising

Category' and the category of consumers for whom this amount is set off to arrive at the net revenue gap are called 'subsidised category'.

Aggregate Technical and Commercial Loss (AT & C Loss):

The difference between the units input and the units realised expressed as a percentage of unit input is referred to as AT & C Losses. It takes into account both the T&D Loss and Collection inefficiency in a company.

Example for Aggregate Technical & Commercial Loss(AT&C)

			2004-05
Energy Purchased (availability)	MU's		33110
T&D Loss	MU's		9774
Sales	MU's		23336
Demand (as per Accounts)	Rs. Crs.		6940
Collection	Rs. Crs.		6322
Units billed but not collected	MU's		2077
Total AT&C Loss	MU's		11851
% of AT&C loss	%		35.79

Includes Rs.595 crs. released by GOK towards RDPR & UDD dues if this amount is excluded , AT&C loss would be 41.84%

A U D I T I N G

Internal Auditing

Internal Auditing is a control that is concerned with the examination and appraisal of other controls – in ensuring that the assets of a business are properly protected and accounted for, that current transactions are promptly and completely recorded, that faulty, inefficient or fraudulent operations are revealed and that the business is adequately protected against waste, fraud and loss. The purpose of this control is to assure better operation and maximum profits.

Internal Auditing Tools and Techniques :

There are certain tools, techniques and methods an internal auditor can apply in internal audit operations.

These methods can be applied by KPTCL , solely or in combination, depending on the need and circumstances :

- Internal audit questionnaire
- Project Evaluation Review Technique (PERT) and Critical Path Method (CPM)
- Compliance Test
- Substantive Tests which include
 - a) In depth internal audit
 - b) Analysis and interpretation of financial statements
 - c) Flowcharting
 - d) Statistical sampling

Objective of Internal Audit :

- Safeguarding the assets of the company
- Protection of facilities and other business resources
- Securing the accuracy and reliability of the records and management information systems
- Ensuring compliance with statutory laws and rules

- To control the operations especially when the organisation is large
- To uncover any misuse or misappropriation of company's assets
- To prevent and detect frauds and errors
- To ensure accurate and timely preparation of various reports.
- The internal audit team shall make periodic recommendations to the management on the internal controls and internal checks.

Internal Audit Reporting :

Internal audit reporting is very critical for management to take decisions about controls and checks.

The formats can vary from organisation to organisation and from time to time. The audit committee will lay down its requirement and scope of internal audit. The format of presentation can be set out under the following heads to indicate the general outline of an internal audit report :-

- Terms of reference – as per the directive of Management or Audit committee.
- Purpose, scope and limitation of appraisal.
- Contents of the report
- Follow-up of last audit report
- Significant facts or highlights of the main points to be given before the detail report commences
- Detailed reports including findings, observations and recommendations
- Supporting documents, statistics, graphic representations and other evidences.
- Follow up reports with regard to :
 - Action Taken on report
 - Difficulties faced by company in implementing audit recommendations
 - Importance of follow-up to bring all findings and observations to a logical end.

Auditing of Purchases – Routine

Recommended procedures are as follows :

- 1) To verify whether requisitions have been made for the purchases to be made.
- 2) To verify whether the requisitions have been made in the prescribed formats and all the details have been duly filled.
- 3) To verify whether the stock of the materials specified in the requisition are there in the stores or not.
- 4) To verify whether the average consumption of materials for the preceding months, with the demand in order to ascertain the propriety of the requisition.
- 5) To verify there is budget provision for the requisition.
- 6) To verify whether the requisition is within the financial power of the concerned office.
- 7) To correlate the requisition with previous purchases made in order to confirm whether the budget provision is exceeded.
- 8) Whether the regular procedure of calling tenders in the newspaper, opening of Tender and the acceptance of lowest tenders has been followed or not.
- 9) Whether the rates, duties, taxes and all other specifications as quoted by the parties have been taken care of in the comparative statement.
- 10) To verify the past performance of the participating parties.
- 11) Verification has to be made by TA & QC for quality of the material.
- 12) Verification for arithmetic accuracy has been made or not.
- 13) To make audit observations and recommendations, if any, and dispatch the same to the technical section within the prescribed time limit.
- 14) To receive the replies for the observations raised and verify the same for the compliance. In case if the replies are not received within SEVEN DAYS from the date of dispatch of the same, it may be reported to FA(IA).
- 15) To verify whether purchase orders have been made within the prescribed time limit of accepting the tenders.

- 16) To verify whether purchase orders are issued to the party whose tender have been accepted.
- 17) To verify the purchase orders have been split in to two or more orders in order to escape obtaining of sanction from higher authority.
- 18) To verify if the purchase order can be combined and a common order be placed to avail the benefit of bulk order.
- 19) To verify whether the materials are delivered within the date mentioned in the purchase order. In case of variances, reasons for the same should be ascertained. If materials are not received as on the date of the purchase order, verify whether proper reminders are sent or the terms of the agreement for the non-delivery as per schedule is being followed.
- 20) On receipt of the materials, to verify whether the same corresponds to the purchase order in terms of type, rates, quantity etc.,
- 21) To verify whether the materials received has been properly taken into stock and whether entries have been made correctly in the Stock ledger.

In case of Emergency Purchases :

Following procedures are to be adopted in auditing Emergency purchases made at the units :

- 1) To verify whether the materials were really needed urgently at the units.
- 2) To verify whether, the materials were held in stock or not.
- 3) The materials purchased on emergency basis haven of the specified make and model.
- 4) To verify whether the materials so procured, have been utilized immediately or not.
- 5) To verify whether the inspection wing have inspected the quality of the material and given report.
- 6) To verify whether emergency purchases are frequent in nature and if yes, find out the reason.
- 7) Major items like Jointing kits, poles, Transformers cannot be procured under emergency basis. Regular verification has to be made to make sure that sufficient quantity of major items are kept in stores to meet the requirements.

SPECIAL TERMINOLOGIES

Profit After Tax(PAT) :

This is the net profit after providing for tax. It is also called as 'bottom line' of a company's P&L account. The net surplus from operations and after providing for interest and tax is depicted as PAT

Earnings Before Interest and Tax (EBIT) :

It is an indicator of a company's financial performance calculated as revenue minus expenses excluding tax and interest. Also referred as operating earnings

Break Even Point (BEP):

The level of activity at which there is neither a profit nor loss. This can be calculated by dividing Total Fixed Cost from Contribution per Unit (i.e., Selling Price per unit minus Variable Cost per Unit).

Economic Order Quantity (EOQ):

It refers to the determination of a size or quantity of material to be purchased or goods to be manufactured that would represent the optimum level, taking into account the effects of higher or lower quantities on costs, production or sales. It is worked out using the following formula:

$$EOQ = \sqrt{\frac{2 \times \text{Annual Consumption} \times \text{Buying Cost per Unit}}{\text{Cost of Carrying one Unit of Inventory for one year}}}$$

Aggregate Revenue Requirement (ARR):

It is the total net expenditure after capitalization and after deducting 'Other Income or Non-Tariff Income' as laid down by KERC in the 'KERC (Tariff) Regulations, 2000'.

Bulk Supply Cost (BSC):

Rate at which the Power purchase cost and related costs are passed on to licensees to whom bulk energy is supplied by KPTCL. This is calculated by dividing {Power

purchase cost + LDC Expenses + Interest on PP dues} from net Bulk Energy Supply.

Average Power Purchase cost:

It is the pooled average cost of power purchase per unit during a specified period. It is calculated by dividing total Power Purchase Cost during the period from Total Energy Purchased during the period.

Plant Load Factor(PLF):

It means for a given period, the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period. In other words it is the capacity utilization of a generating plant expressed as a percentage to its total installed capacity. Depending on the context, it can also be expressed in terms of number of hours (number of hours generated / to be generated upon total number of hours during the period ie., 24 hours X 365 days if the period is an year).

Availability Based Tariff (ABT):

ABT concerns itself with the tariff structure for bulk power and is aimed at bringing about more responsibility and accountability in power generation and consumption through a scheme of incentives and disincentives. The most significant aspect of ABT is splitting of the existing monolithic energy charge structure into three components viz., capacity charge (fixed), energy charge (variable) and UI (unscheduled interchange) charges. The ABT regime stipulates that UI charges are payable under the following conditions

- a) a generator generates more/less than schedule causing grid frequency to deviate upwards/downwards and
- b) a beneficiary draws more/less than the schedule causing grid frequency to deviate upwards/downwards.

Management by Exception (MBE) :

A MBO is concerned with the results and outputs than the process itself. Here, the attention is shifted from process to results. This leads to information flows, planning and evaluations that are all focused on results. The managers decide

what activities are the most important in the organisation and put those on top of the list of things that have to be accomplished throughout the year.

Programme Evaluation Review Technique (PERT):

This technique is used in planning, scheduling and controlling large complex projects. A PERT chart presents a graphic illustration of project as a network diagram consisting of numbered nodes (either circles or rectangles) representing events, or milestones in the project linked by labeled vectors(directional lines) representing tasks in the project.

Critical Path Method(CPM):

Critical path is the path represented by activities, which takes the shortest duration for completion. CPM is also a network technique, which uses single-time activity estimates and is used in the case of small and medium repetitive construction projects.

Fast Moving Consumer Goods (FMCG) :

These are the goods that are easily marketed and storing time of which is very less. That is, the period between manufacturing and selling is very less for these goods.

Economic Value Added (EVA):

EVA measures the difference between the return on a company's capital and the cost of that Capital. A positive EVA indicates that value has been created for share holders ; a negative EV signifies value destruction.

First In First Out (FIFO):

This is an inventory pricing method whereby the material issues are priced on the basis of rate of materials receipted first. Under this method closing balance of inventory represents the rate of most recently purchased goods or nearer to the current market rates.

Last In First Out (LIFO):

This is an inventory pricing method whereby the material issues are priced on the basis of rate of materials received last.

Rate Of Return (ROR):

A percentage of return or profit on certain pre-defined base. The base may be Capital, Net Fixed Assets, Investments, etc.,.

As per the erstwhile The Electricity (Supply) Act, 1948, Section 59(j) the SEBs were supposed to earn minimum 3% surplus on Net Fixed Assets (ie., Capital Base worked out by deducting Accumulated Depreciation and Consumers Contribution from Gross Fixed Assets). This minimum surplus is called 3% ROR in the context of surplus in power utilities.

Return on Equity (ROE):

The profit on Paid up Equity Share Capital is known as ROE. It is worked out by dividing PAT from Shareholders Equity Fund. Some times the definition of Equity also includes Reserves and Surplus also. At present the ROE allowed by KERC to KPTCL and ESCOMs is 12%.

Initial Public Offer (IPO):

It is the first or primary offering of the stock to the public. There are set of guidelines issued by SEBI relating to IPO by any Company.

Management By Objective (MBO) :

A MBO is concerned with the results and outputs than the process itself. Here, the attention is shifted from process to results. This leads to information flows, planning and evaluations that are all focused on results. The managers decide what activities are the most important in the organization and put those on top of the list of things that they have to be accomplished throughout the year.

* * * * *

Cost Accounting Records (Electricity Industry), Rules, 2001.

("CARR" abbreviation is used for Cost Accounting Records Rules in this Note)

A. Background :

The Ministry of Law, Justice and Company Affairs (Department of Company Affairs), Govt. of India vide Notification No. G.S.R. 913 (E) dated 21st December, 2001 makes the said Rules applicable to every company engaged in the activities of Generation, Transmission & Bulk Supply and Distribution and Retail supply of Electricity. As the said Rules are applicable to KPTCL (Transmission Company) and four ESCOMs (Distribution Companies) in our State action to implement and follow the prescribed Rules is mandatory.

B. Provisions of The Companies Act, 1956 :

Section 209 of the Companies Act, 1956 prescribes the books of accounts to be kept by the companies. This section was amended by Companies (Amendment) Acts of 1960, 1965, 1974 and 1988. The extracts of the amended section 209 prescribes as follows :

" Sec. 209 . Books of Account to be kept by a Company.

(1) Every Company shall keep at its registered office proper books of account with respect to –

(a) all sums of money received and expended by the company and the matters in respect of which the receipt and expenditure take place ;

(b) all sales and purchases of goods by the company

(c) the assets and liabilities of the company

(d) **in the case of a company pertaining to any class of companies engaged in production, processing, manufacturing or mining activities, such particulars relating to utilization of material or labour or to other items of costs as may be prescribed, if such class of companies is required by the Central Government, to included such particulars in the books of account. "**

The Act also gives explanations as to proper books of accounts, duration for which such books to be preserved, penal provisions for failure to comply with the requirement of the section, place of maintenance of records, audit of cost accounts, etc.,.

Further Section 233 B of the Act prescribes that " where in the opinion of the Central Government it is necessary so to do in relation to any company required under clause (d) of sub-section (1) of section 209 to include in its books of account the particulars referred to therein, the Central Government may, by order, direct that an audit of cost accounts of the company shall be conducted in such manner as may be specified in the order by an auditor who shall be a cost accountant within the meaning of the Cost and Works Accountants Act, 1959 :.

C. Provisions of The Income Tax Act, 1961 :

The amended **Section 139(9)** of the Income Tax Act, 1961 incorporates that the Income return of every company should be accompanied by a copy of a cost audit report wherever cost audit has been conducted under Section 233-B of the Companies Act, 1956.

D. The Cost Accounting Records Rules :

Unlike financial account for which their outlines are provided in the Companies Act, in case of cost accounts, particulars of accounts are prescribed for each type of industry by the Central Government. Thus, the actual prescription of cost records is not contained under Section 209 (1) (d), but in the CARR prescribed for each type of industry.

What constitutes Cost Accounting Records ?

The records contemplated under Section 209 (1) (d) of the Companies Act, 1956 would include *all the accounting records maintained by the*

Company and made available for audit by the financial auditor. In addition, the following records would also have to be maintained (ie., various records relating to following activities / expenses) :

1. Production
2. Work-in-progress and finished goods
3. Repairs and Maintenance
4. Utilities (steam, power, water)
5. Raw material and stores
6. Wages and Salaries
7. Overheads
8. Cost Accounts
9. Sales

Structure of CARR :

CARR are different for different industries and products and this divergency is mainly due to different methods of manufacturing processes. The nature of activity also vary widely from product to product and from industry to industry. However, from statutory point of view, a general patter of CARR can be established. These rules can be divided into three parts. Part I describes the rules, gives definition, mentions about the applicability and penalty clauses. Part II deals with Schedule I which describes the procedure to be followed in respect of each element of cost and contain proformae in certain industries. Part III deals with Schedule II which prescribes the various proformae of cost statements for various products covered under the CARR.

E. The Cost Audit Report Rules :

Cost Audit Report is the end product of every audit of cost accounts. It is the medium through which an auditor expresses his opinion on the issues expected to be dealt with in a cost audit report. It summarises the work conducted by the cost auditor. The Cost Audit Report should be in conformity with The Cost Audit (Report) Rules, 1968 which is amended.

from time to time. As per the rules, the format of Cost Audit Report has been standardized.

Contents and requirements of the Cost Audit Report Rules (and Annexure to the Report)

- i) Statutory affirmations
- ii) Objective statement of findings / conclusions.
- iii) Statement of facts
- iv) Re-statement of figures and data
- v) Statement of opinion on matters requiring professional competence
- vi) Statements of opinion relating to performance of management

Annexure to Cost Audit Report :

The main certificate is always read with the annexure which contains full details which are summarised as :

- (1) General Information
- (2) Cost Accounting System
- (3) Financial Position
- (4) Production
- (5) Process of Manufacture
- (6) Raw Materials
- (7) Power and Fuel
- (8) Wages and Salaries
- (9) Stores and Spare Parts
- (10) Depreciation
- (11) Overheads
- (12) Royalty / Technical Aid Payments
- (13) Sales
- (14) Abnormal and non-recurring cost
- (15) Other Items
- (16) Auditor's observations and conclusion

Cost audit has been ordered for KPTCL vide GOI Notification NO.52/16/CAB-2004 dated 16-9-2005 along with 22 other Companies in the Power Sector.

F. Cost Accounting Records (Electricity Industry) Rules, 2001. :

Main contents of the Rules is extracted below :

Applicability :

To every company engaged in any of the following activities namely :

- (1) **Generation** of electricity from :- thermal power, gas turbine, hydro-electric power, atomic power, solar power, wind power and any other source of energy.
- (2) **Transmission** and bulk supply of electricity
- (3) **Distribution** and retail supply of electricity

Maintenance of Records :

Keep proper books of account relating to utilization of materials, labour and other items of cost in so far as they are applicable to any of the activities referred to in rule 2. *The books of account, so maintained, shall contain, inter-alia, the particulars specified in the Schedule annexed to these rules and Proformae A, B, C, D, E and F mentioned in the said Schedule.*

Penalty :

If a company contravenes the provisions of rule 3, the company and every officer thereof who is in default, including the persons referred to in sub-rule (4) of rule 3 shall, subject to provisions of section 209 of Companies Act, 1956 (1 of 1956) be punishable with fine which may extend to five thousand rupees and where the contravention is a continuing one, with a further fine which may extend to five hundred rupees for every day, after the first day during which such contravention continues.

Schedule :

Under the Schedule, **detailed explanation as to maintenance of records relating to following items is given :**

- Materials
- Salaries and wages
- Service Department Expenses

- Utilities
- Workshop or Repairs and Maintenance or Tool Rooms
- Fixed Assets and Depreciation
- Leasing Charges
- Other Overheads
- Royalty or Technical Know-How Fee
- Research and Development Expenses
- Interest
- Expenses or Incentives on Exports
- Cost Statements
- Production Records
- Reconciliation of Cost and Financial Accounts
- Adjustment of Cost Variances
- Statistical Records
- Captive Consumption
- Pollution Control
- Human Resources Development
- Related-Party Transactions

Proformae :

The Proformae prescribed in the rules and their main contents are :

Proforma A –

Statement showing the cost of utilities (ie., quantitative and cost information)

Proforma B –

Statement showing the cost of primary and secondary fuel

Proforma C –

Statement showing the cost of generation of power during the year / period

Proforma D –

Statement showing the cost of Transmission . Distribution during the year / period.

Proforma E –

Statement showing the cost of supply (consumer servicing and billing, etc.,) during the year / period (i.e, quantitative and cost information)

Proforma F -

Statement showing the allocation / apportionment of total expenses / income of the company between activities covered under rule 2 and other activities during the year / period.

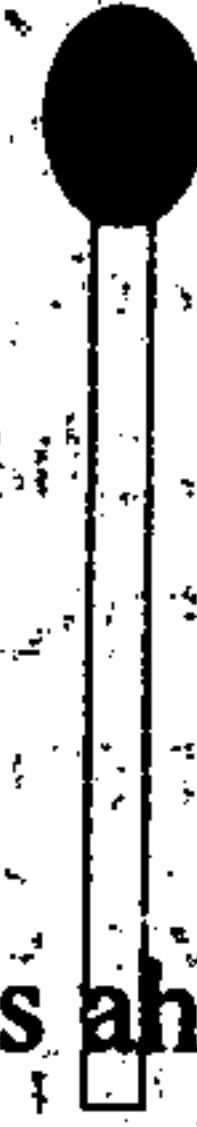
USEFUL TIPS ABOUT ANGER



A match stick has ahead but not a brain

ANGER PREVENTION KIT

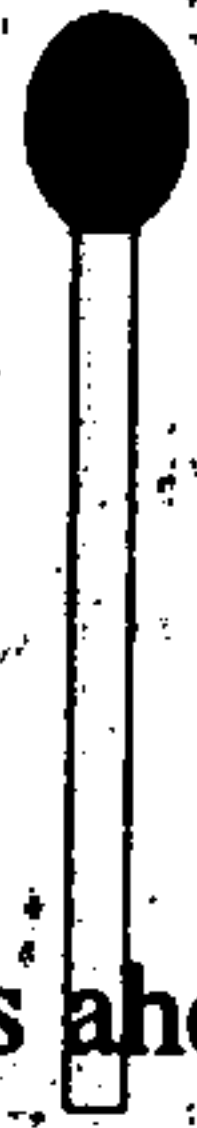
Do important jobs now before they become urgent.



A match stick has ahead but not a brain

ANGER PREVENTION KIT

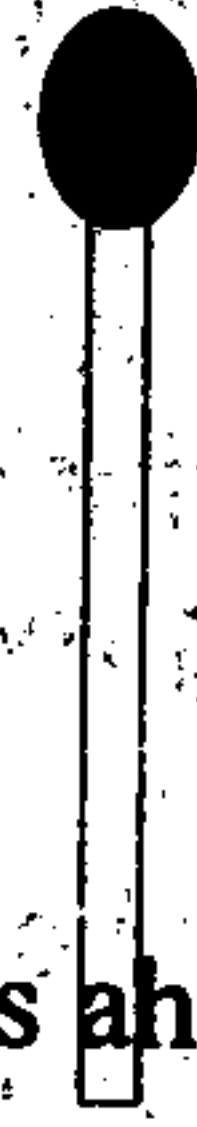
Accept what you cannot change & change what you cannot accept.



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ANGER PREVENTION KIT

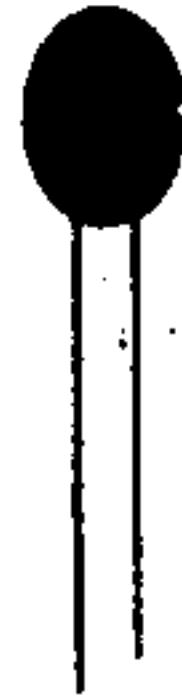
Ask even stupid questions to avoid mistakes to further avoid others getting angry with you.



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ANGER PREVENTION KIT

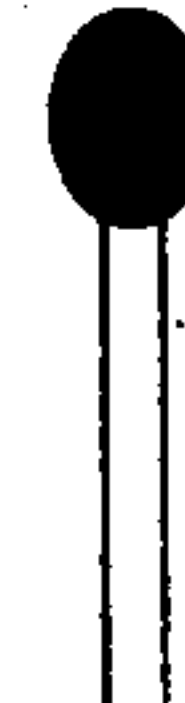
**Make common sense your best friend to
reduce your anger and the anger of others.**



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ANGER PREVENTION KIT

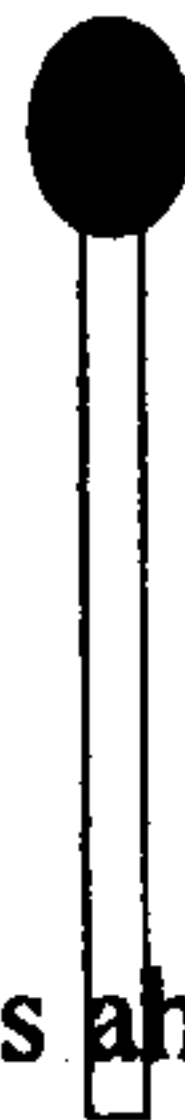
**You cannot change others as easily as
you can change yourself.**



A match stick has a head but not a brain

ANGER PREVENTION KIT

**Do not just catch your employees or your
children doing wrong things; it will make
you angry. Catch them doing right things.**

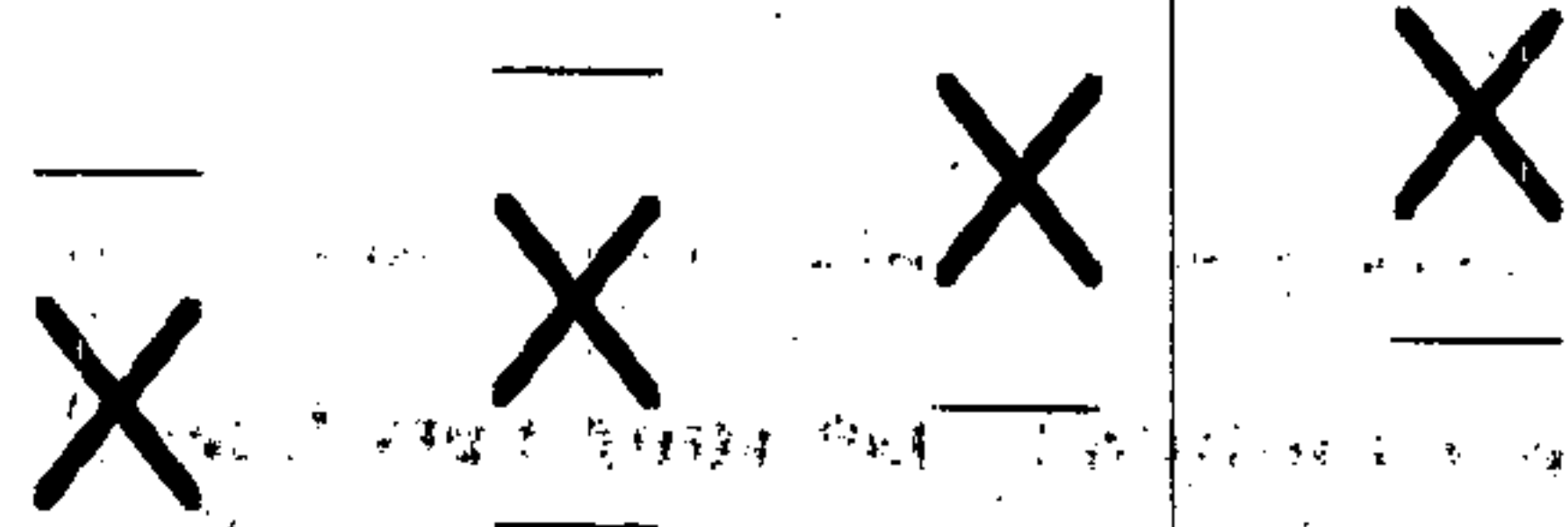
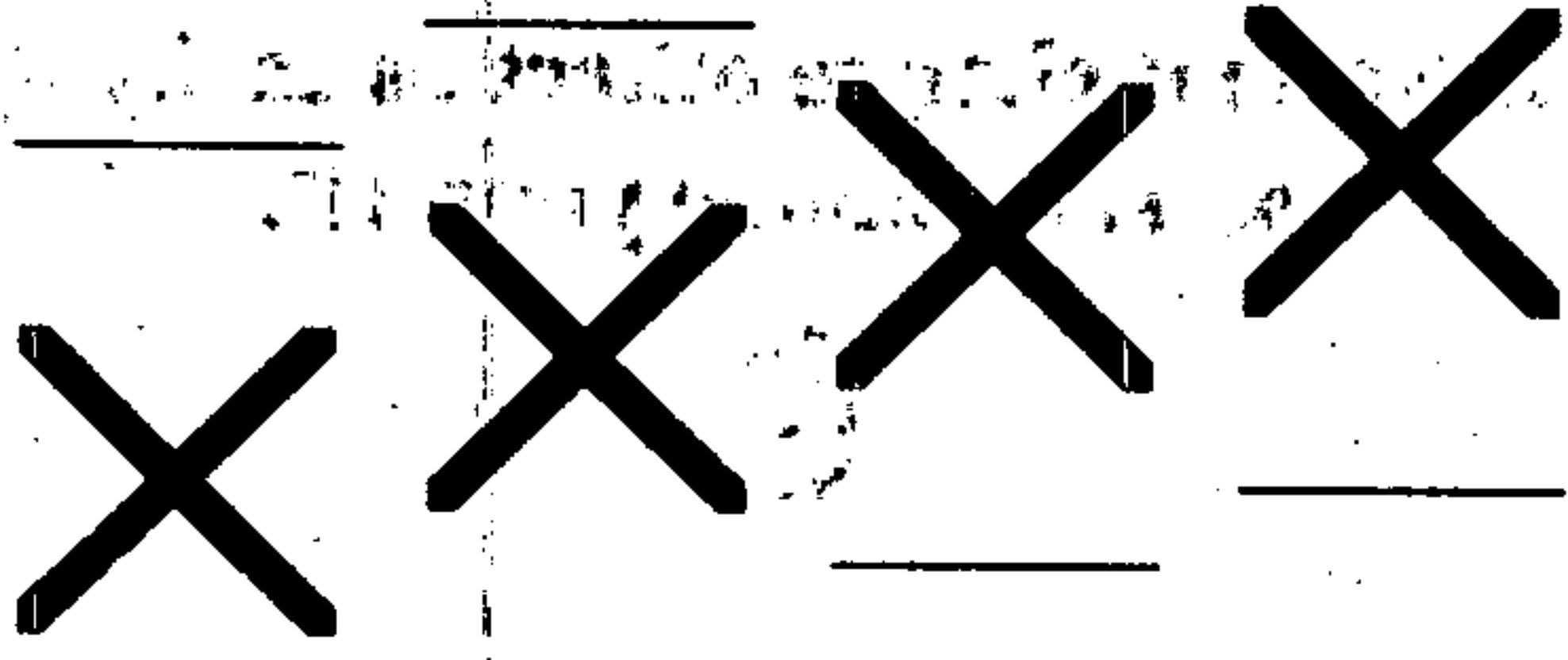


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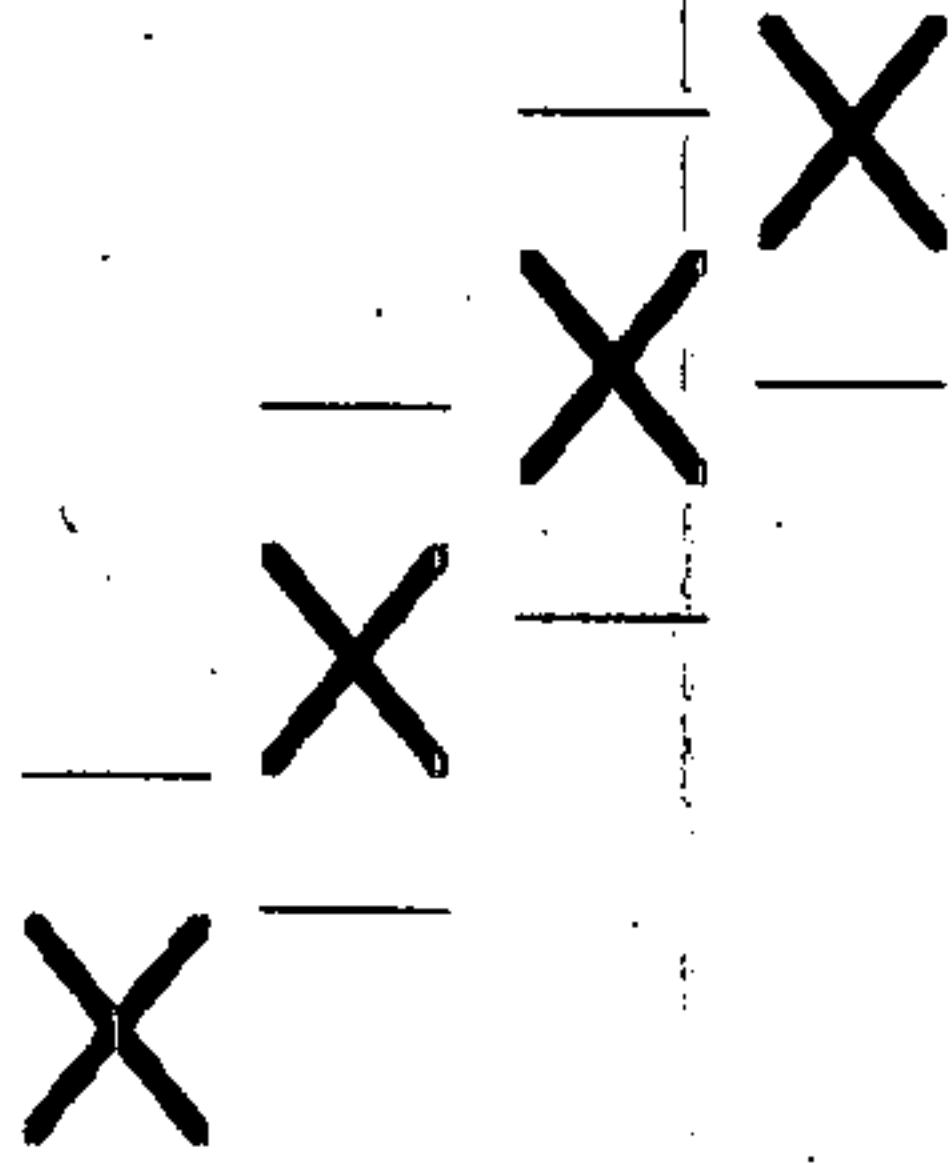
A match stick has a head but not a brain

ANGER PREVENTION KIT

THE FOUR CANDLES



**THE FOUR CANDLES
BURN SLOWLY.**



**THE AMBIANCE
WAS SO SOFT
YOU COULD
HEAR THEM
TALKING.**

THE FIRST ONE SAID:



**"I AM PEACE !
HOWEVER, NOBODY
CAN KEEP ME LIT .
I BELIEVE I WILL GO
OUT."**

It's flame rapidly diminishes and goes out completely.



THE SECOND ONE SAYS:

"I AM FAITH !

**MOST OF ALL, I AM NO
LONGER INDISPENSABLE ,
SO IT DOESN'T MAKE ANY
SENSE THAT I STAY LIT ANY
LONGER ."**

When it finished talking, a breeze softly blew on it putting it out.

**SADLY, THE THIRD CANDLE
SPOKE IN ITS TURN:**

"I AM LOVE !

**I HAVEN'T GOT THE STRENGTH
TO STAY LIT. PEOPLE PUT ME
ASIDE AND DON'T UNDERSTAND
MY IMPORTANCE. THEY EVEN
FORGET TO LOVE THOSE WHO
ARE NEAREST TO THEM ."**

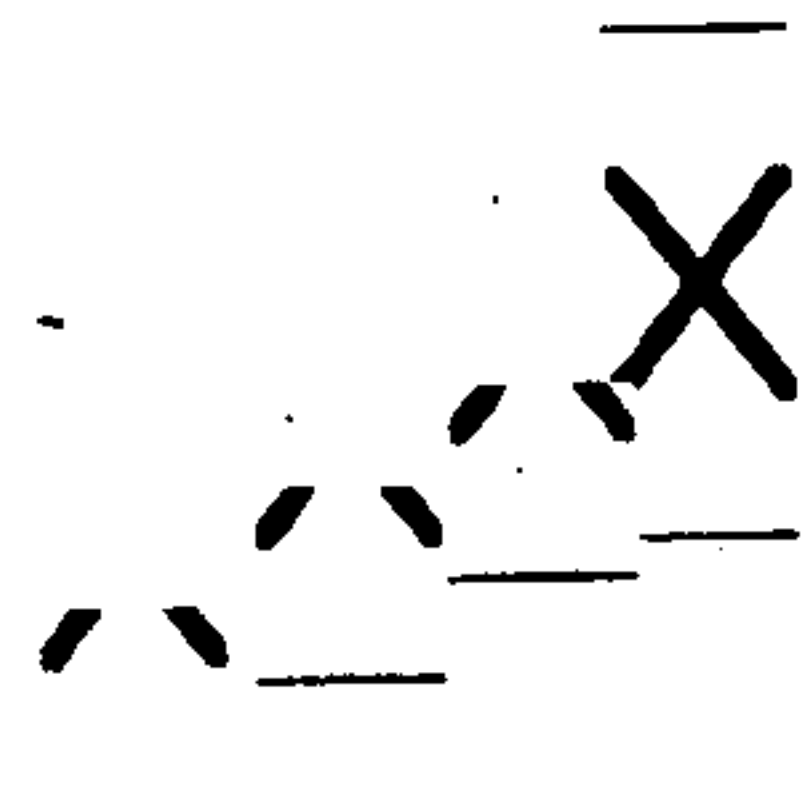
And waiting no longer it goes out.



SUDDENLY...

A CHILD ENTERS THE ROOM AND SEES THREE CANDLES NOT BURNING.

"WHY ARE YOU NOT BURNING? YOU ARE SUPPOSED TO STAY LIT TILL THE END."



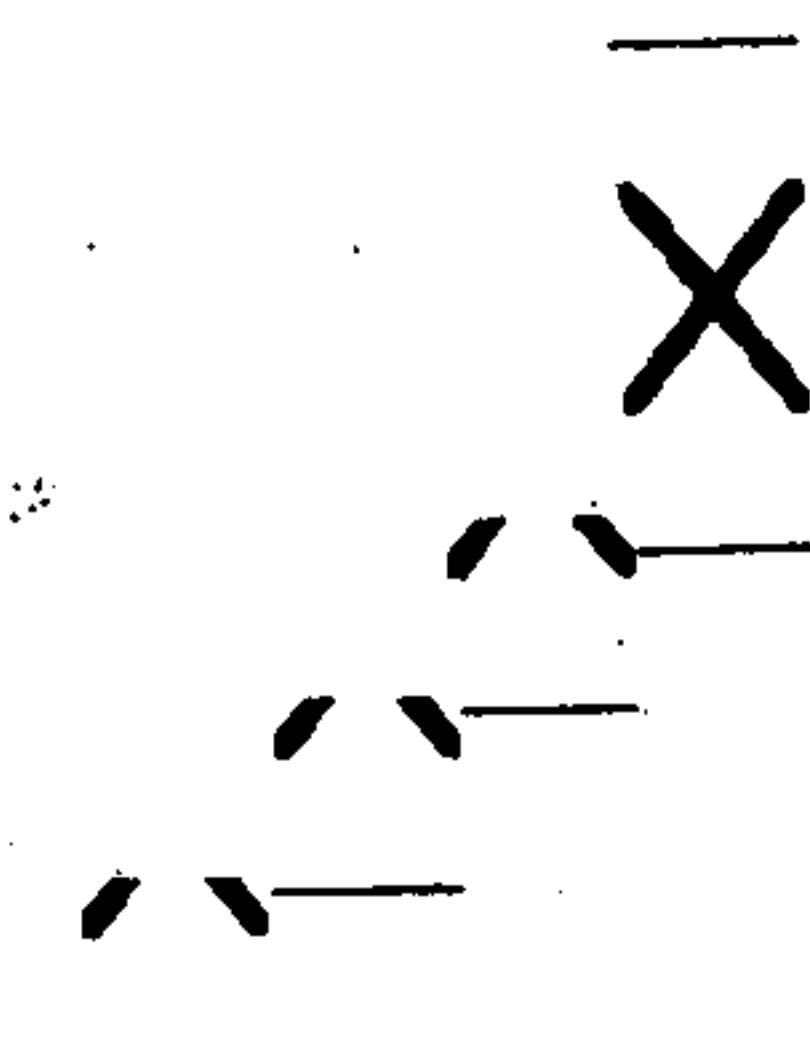
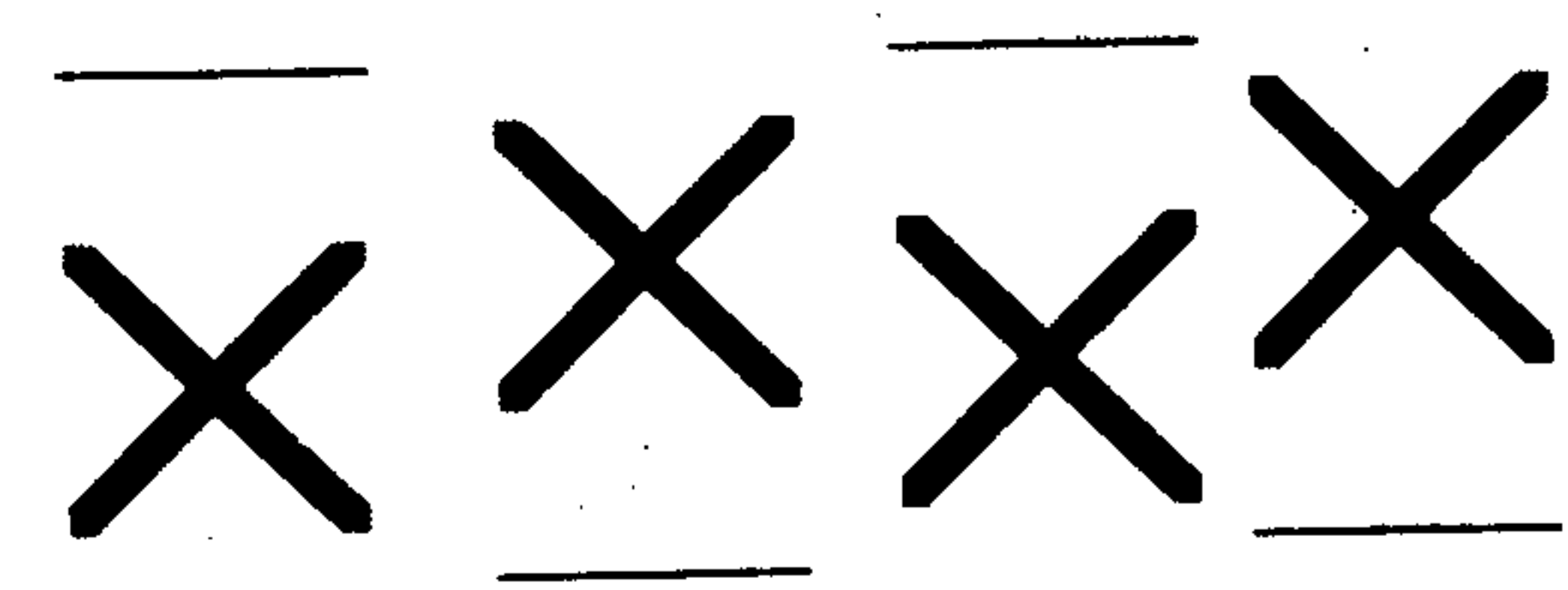
Saying this, the child begins to cry.

THEN THE FOURTH CANDLE SAID:

"DON'T BE AFRAID, WHILE I AM STILL BURNING WE CAN RE-LIGHT THE OTHER CANDLES,

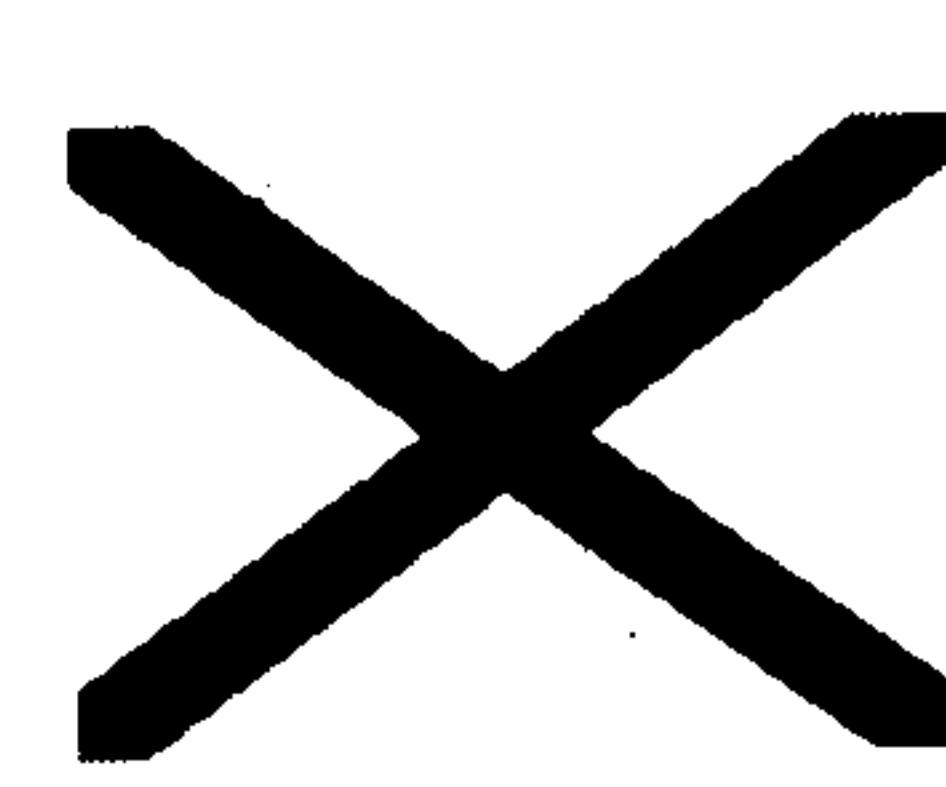
I AM

HOPE !"

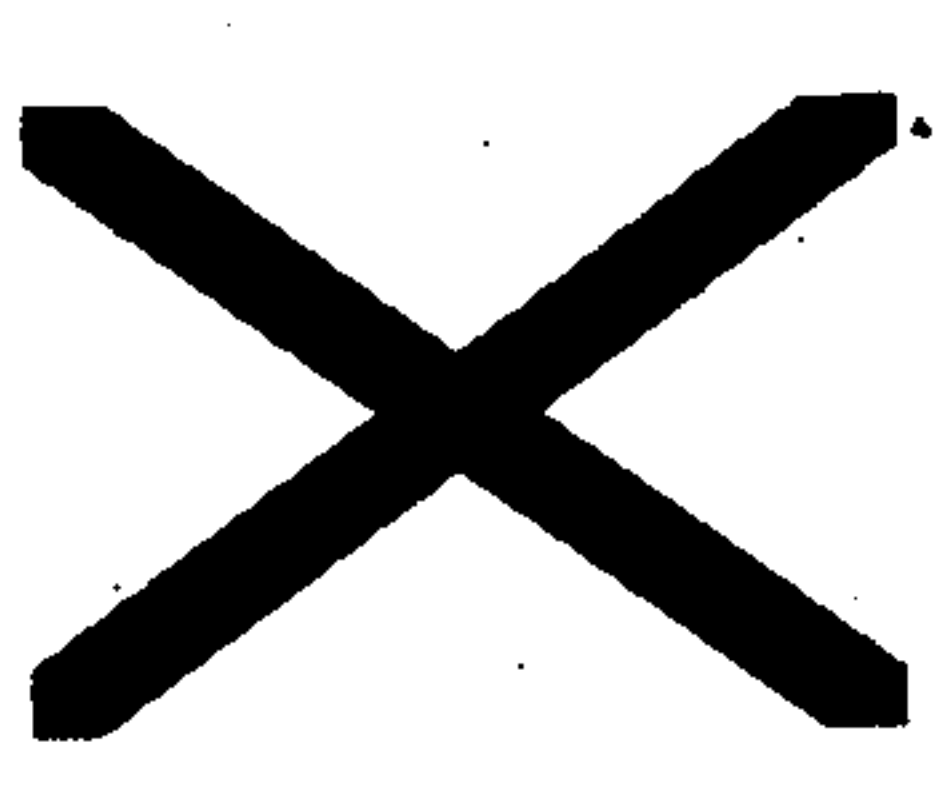
WITH SHINING EYES, THE CHILD TOOK THE CANDLE OF HOPE AND LIT THE OTHER CANDLES.

The flame of Hope should never go out from your life

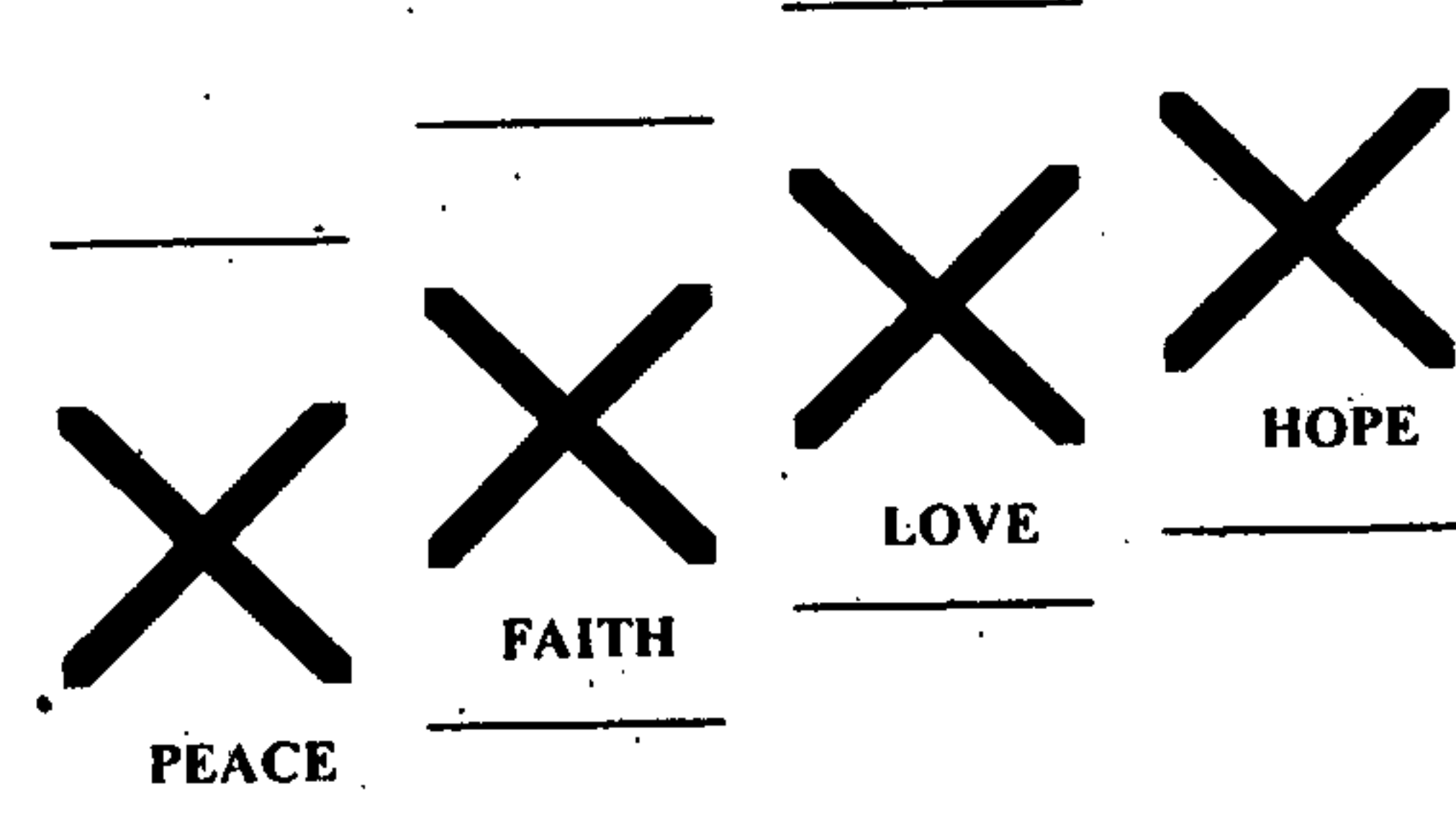


...and that each of us can maintain Hope, Faith, Peace and Love

!!!!



Have a nice day...



PEACE

FAITH

LOVE

HOPE