SUMARY.

"AN ANALYSIS OF FINANCIAL PERFORMANCE OF SELECTED POWER GENERATING COMPANIES IN GUJARAT- AN IN -DEPTH STUDY OF PRE AND POST REFORM PERIOD."

RELEVANCE OF THE PRESENT WORK

Electricity is one of the most vital infrastructure inputs for economic development in a country and it is the fulcrum on which rests the future pace of growth and development. The demand for electricity in India is enormous and is growing rapidly. The vast electricity market offers one of the highest growth opportunities for private developers.

At the time of Independence, electricity seemed to be more of an urban phenomenon. There was greater emphasis on providing power to the industrial, commercial and domestic segments, which were based mostly in urban areas and semi, urban and rural area were not given due weightage. The Electricity (Supply) Act, 1948 sought to rectify this imbalance by insisting that the SEBs should discharge their social obligations and extend the benefits of electricity to semi-urban and rural areas in the most efficient and economical manner. The Act also stipulated that the area of development must transcend the geographical limits of a municipality. In fulfilment of the obligations envisioned in the Electricity (Supply) Act, 1948, the State Governments had been extending the reach of electricity to ensure a more balanced development. Supply of power at heavily subsidised rates to various categories of consumers like agricultural and domestic was conceived for socio-economic reasons. The Industrial Policy Resolution of 1956 reserved the power sector for public investments in India. Thus, for many decades, the Government had assumed the role of developer, promoter and regulator of electricity.

Since independence, development of the electricity sector was primarily the responsibility of the Government, except for a few “licensees” like Tata Electric Company (TEC), Bombay Suburban Electricity Supply Company (BSES), Calcutta Electricity Supply Company (CESE), and Ahmadabad Electricity Company (AEC). In its quest for increasing the availability of electricity, the country has adopted a blend of thermal, hydel and nuclear sources and non-conventional sources like solar, wind and mini micro hydro energy. The all India installed capacity of generating stations was 76,753 MW as on 31st March 1994. In spite of significant growth in power generation, the shortage continued mainly due to the growth in demand, for outstripping the growth in generation. The energy shortage ranged from 7 per cent to 11 per cent and peak shortage from 16 per cent to 21 per cent during the year, even though the overall generation in the country had increased by over 8 percent in the recent years.

India’s electricity needs are enormous. This is evident from the fact that the prospective plan for the power sector indicated incremental capacity requirement of 1,42,000 MW during 1992-2007 to meet the growth in demand. This implied the creation of an incremental capacity of nearly 10,000 to 12,000 MW per year. The acute shortages in power supply in the country, both energy and peak, was a matter of grave concern since the economic development of the country depended on the availability of continuous and reliable power. The broad strategy of the Government was to deal with both supply side and demand side management to meet these shortages. On the supply side, however, the emphasis was primarily on the addition of generation capacity.

The abundant energy resources of the country were not being put to optimum use, primarily due to financial constraints. In the context of paucity of resources with the Central and State Governments, as well as PSUs and SEBs, the need was to bridge the gap between the rapidly growing demand and supply for electricity. A policy to encourage greater investments by private enterprises for capacity addition in power generation and distribution was formulated by the Government in 1991. Mobilization of resources for achieving self-sufficiency in the electricity sector assumed high priority; therefore, the role of the private sector had become very important.

NEW ENVIRONMNET FOR PRIVATE SECTOR INVESTMENTS.

Private sector participation in the power sector was not a novel concept in the Indian context. The private sector was a participant in India's electricity sector for over a hundred years. Even during the period of public sector domination, some private sector companies operated as 'licensees' of the State Electricity Boards and were rated amongst the best in the country in terms of performance and profitability. Such power companies had been operating their own power generation with a total capacity of around 3,000 MW and distribution systems to around ten million consumers, before the Government decided to encourage more private sector investments.

In response to the new economic realities of liberalisation and globalisation, the Government formulated a policy in 1991 to encourage greater participation by privately owned enterprises in electricity generation, with the aim of bringing in additional resources for the capacity addition programme in the electricity sector. The Indian Electricity Act, 1910 and Electricity (Supply) Act, 1948, were amended to bring about a new legal, administrative and financial environment for private enterprise in the electricity sector. The new policy permitted 100 per cent foreign owned companies to set up power projects based on any fuel such as coal, lignite, gas, hydel, liquid fuels, wind or solar and repatriate profits without any export obligations. An attractive two-part tariff structure was provided which allowed recovery of full fixed charges with up to 16 per cent return on equity at specified plant load/availability factor. This was further modified from time to time to make the policy more attractive and flexible. A five year-tax holiday was also given.

Since electricity is a subject listed in the Concurrent List of the Indian Constitution, the State Governments have played a vital role in promoting electricity projects. It was significant that the policy to encourage private participation in the development of the electricity sector was welcomed by all the State Governments. The response of private companies, both Indian and foreign, to the policy on private power development was very encouraging.

Response from the Private Sector.

There was considerable euphoria in the Ministry as power generation was thrown open for private investment and more than 250 Memorandum of Understandings (MoUs) were signed for setting up power projects for a capacity addition of around 75,000 MW. All these proposals were at various stages of processing and obtaining clearances, including those from the FIPB. Fifty-two of these offers were from foreign private firms, including from NRIs as also joint venture proposals. A number of workshops, seminars and conferences were organised in the country to attract prospective investors for the investment opportunities in the sector.

The progress of these proposals was regularly reviewed and after further scrutiny and withdrawals, the number has come down to 194 by 31st March 1996. During 1997-98, the Ministry was monitoring about 125 private power projects of 67,200 MW capacity, all of which required techno-economic clearance (TEC) of the CEA. These included 95 proposals on the MoU/Letter of Intent (LoI) etc., route and 30 proposals on the competitive bidding route. In addition, there were several MoU/LoI projects, costing up to Rs. 100 crore and projects awarded through competitive bidding, cost up to Rs. 1,000 crores, which were being set up with the approval of the State Governments and which did not require

The present study of pre and post reform period has been carried out in order to make an effort to understand relevance in An analysis of financial performance of selected power generating company in Gujarat.

It could enable management to understand the improvement of financial performance after refrom of power sector policy. It will be first of its kind, significant and pioneering research on an analysis of financial performance of selected power generating company in Gujarat and in depth study of pre and post reform period. in Gujarat. Thus, the proposed work will surely contribute to the field of performance of power sector companies in particular and the Accounting and Financial Management in general.

OBJECTIVES OF THE STUDY:

The present study proposed to examine the policy prevailing in an analysis of financial performance of selected power generating company in Gujarat and in depth study of pre and post reform period in the state of Gujarat

The specific objectives of the study are as follows:

1. To measure the growth of selected Power Generating Company in Gujarat.
2. To undertake the performance evaluation of selected Power Generating Companies in Gujarat.
3. To examine the financial problems faced by the Power Generation Companies.
4. To evaluate cost of generation and finance.
5. To examine profitability of Power Generating Companies.
6. To make suggestions for improvement of financial performance.
7. To undertake the performance evaluation of means score of liquidity indicators on the financial performance of power generating company in Gujarat and depth study of pre and post reform selected Power Generating Companies in Gujarat.
8. To undertake the performance evaluation of significant improvement in means score of Leverage indicators on the financial performance of power generating company in Gujarat and depth study of pre and post reform.

CHAPTER-1 : OVERVIEW OF ELECTRICITY SECTOR.

History of Electricity sector

Electricity is one of the most vital infrastructure inputs for economic development in a country and it is the fulcrum on which rests the future pace of growth and development. The demand for electricity in India is enormous and is growing rapidly. The vast electricity market offers one of the highest growth opportunities for private developers.

Table No.1.1

First Time in India

First Time	Year
Calcutta electric lighting licence --- Indian Electric Co	1897
Bombay Electric Supply & Tramways Company (BEST)	1882
Bombay Electric Supply & Tramways Company (BEST) set up a generating station	1905
Hydroelectric installation in India- at Sidrapong for the Darjeeling Municipality	1897
Electric street light in Asia was lit in Bangalore.(Now BANGLURU)	5/8/1905
Electric train in the country (Bombay's Victoria Terminus and Kurla)	3/2/1925
Fully solar powered Cochin airport with the inauguration of a dedicated solar plant.	18/8/2015
India began utilizing grid management on a regional basis	1960s
Interconnection of regional grids was established	October 1991
India has become net exporter of electricity	March, 2017

Financial Management of Power sector.

As per the report of Economic Survey of India Power sector , GoI.2011-12. All Most all state Electricity Board was under the control of State Government. Revision of Tariff decided by State Government as per the Political position. Considering free or very

nominal/concessional rate to Agriculture Farmers by Government. Due to this revenue from sale of Power not equal to Cost to supply. Subvention Subsidy was available to SEB but payment of all types subsidy was not paid within time limit by State Government. Consequential net effect was to borrow more &more money froms Banks/FI for working Capital. Interest on working increased day by day to manage working Capital by SEB. SEB were entitled to get a rate of return of 3% on their net assets. The financial position of the SEB had started was Bad to worst. Free/ flat rate of power to Agriculture Farmers there for Rate for other Categories ware increase very high due to cross subsidy. In spite of adequate provision of Tariff and minimum rate on Assets has no impact financial performance of SEB. Due to theft and higher A T & C loss was adjusted towards Agriculture consumption of non metter consumers.

India's electricity sector faces many issues. Some are :

(A) Inadequate Fuel Supplies.

1. Coal, lignite, gas and oil are the basic fuel for Power Plants. Fuel is basically a natural product depend on various factors. In spite of available abundant reserves of coal, It is difficulties to mining coal to supply enough to coal to power plants.
2. Transport infrastructure has worsened these problems.
3. To increase coal production capacity, Coal India needs to mine new deposits.
4. Land acquisition for infrastructure in these coal-rich areas of India.
5. Coal India's coal pricing monopoly and implement coal trading in
6. Pipeline connectivity and infrastructure to natural gas potential. The giant new offshore natural gas field has delivered far less gas than requirement causing shortage of natural gas."

- (B) Rated **Plate** capacity of the Power plants owned are higher rated above the actual Capacity .IPPs are financing by over-invoice the plant cost. Due to This Plants are not contributing to the on line to maintain power system .

- (C) India's mountainous north and north east regions have been slowed down by ecological, environmental and rehabilitation controversies, coupled with public interest litigations There for Implementation of Hydroelectric power projects in. India"

- (D) New Power plants execution, availability of fuel quantities and qualities, Fuel resources available, environmental clearances, and training of skilled manpower are the Key implementation challenges

CHAPTER -2 : REVIEW OF LITERATURE

II.1 INTRODUCTION

Review of literature is very important role for any research process. Review of Literature starts from the very beginning of the research process i. e. from the stage of selection of the research problem. The documentation and review of relevant literature continues till the research work is concluded in its final shape." " A researcher is expected to consult the relevant literature using various sources in order to identify the gaps in the available stream of the subject area. The gaps existing in the contemporary literature are major determinants of the scope of a proposed study. The proposed study is expected to bridge some of the theoretical as well as methodological gaps in the existing literature as far as possible.

II.2 WHAT IS REVIEW OF LITERATURE

Review of relevant literatures comprising of books , journals, periodicals and published documents pertaining to functioning ,performance and regulation of power sector in India. While a few of them are focusing on theoretical frame work a good many are related to the practical applications of concepts. Literature is a collection of all the scholarly writing on the topics. Literature is about telling a story kind of chains story where each writer starts with a partial story created previously by others and expands on it the existing literature is the story so far.

II.3 SOURCES OF LITERATURE

There are two type of sources of literature .

(1) Primary Sources. Information available or collected from original records is known as a primary sources of literature e.g Original research Articles.
(2) Secondary Sources Information available or collected from other reliable records is known as a secondary sources of literature e.g News papers, Books and magazines, Television radio website Wikipedia etc.

II.4 TYPES OF LITERATURE

1. Course of assignment

2. Research Proposal

3. Research Papers

(4) Review articles

(5) Dissertation / thesis.

II.5 WHY REQUIRED LITEATURE REVIEW ?

1. Literature review required basically to find out how much previous research done so far.

2. After the study of previous study researcher can find out the "gap" and how further study will help to fills the "gap".
3. The necessity and rational of the study of research problems/gaps etc.

4. To determine the boundaries of research study.

5. Synthesizing and gaining a new perspective =Identifying relationship between ideas and Practise

6. Identifying relationship between ideas and Practise.

7. Establishing the context of the topics.

8. Enhancing and acquiring the subject knowledge and vocabulary relating ides and theory to application and main methodologies and research techniques.

II.6 OBJECTIVE OF LITERAURE REVIEW

Enhancement of knowledge about the thesis of literature and lets gain and demonstrate skills in two easy way viz;

(1) **INFORMATION SEEKING**:

The ability to scan the literature efficiently using manual or computerized methods to identify a set of useful articles and books.

(2) **CRITICAL APPRAISAL** :

The ability to apply principles of analysis to identify unbiased and valid studies.

Various Literature Reviewed

The literature available related to the present research work studied by the researcher is divided into following categories namely

A	**Studies related to Technical and Financial Performance**
B	**Literature on development and evolution of the power sector.**

C	**Literature on problems and challenges of power sector in terms of generation, transmission, distribution etc.**
D	**Literature on power sector reforms.**
E	**Literature on power sector after reforms**
F	**Literature review on International level**

CHAPTER –3 : RESEARCH METHODOLOGY

Research Methodology essential a careful, systematic, persistent study and examination in some field of knowledge, undertaken to establish facts of principles. Research is a search for knowledge. It is a scientific and systematic search for pertinent information on a specific topic. It is an art of scientific investigation. Research is a planned question that exploits suitable scientific procedure to solve problems and create new knowledge that is generally applicable. Scientific methods consist of systematic opinion, arrangement and understanding of data. Although we engage in such process in our daily life, the difference between our casual day to day overview and the assumptions usually recognized as scientific method lies in the degree of decorum, discipline, verifiability and general authority of latter.

Research is an unique input to the existing stock of knowledge making for its progress. The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not yet been discovered. There are various types of research like expressive versus critical research, applied versus fundamental research, quantitative verses qualitative research, conceptual versus empirical research etc. In social science and business research we quite often use the term Ex post facto research for descriptive research studies. In this method the researcher has no control over the variables; he can only report what has happened. It also includes attempts by researchers to discover causes even when they cannot control the variables." (C.R.Kothari, Revised 2nd Edition, New Delhi, 2004.)

Assess the financial performance of selected power generating company in Gujarat an in depth study of pre and post reform period. It also enumerates gaps identified from literature review, research objectives, hypotheses, sources of primary data and secondary data (drawn from Public Enterprises Surveys and Expertise database from Centre for Monitoring Indian Economy, considered credible in Indian context relating to virtually GEB/GSECL .of Gujarat power sector enterprises), data analysis (primarily in terms of major financial ratios,namely, profitability, efficiency, solvency, liquidity, and productivity), statistical techniques used (such as ANOVA, paired test, independent *t*-test, frequency distribution techniques), and research model. (C.R.Kothari, Revised 2nd Edition, New Delhi, 2004.)

TIME PERIOD OF THE STUDY

The present study is 'an analysis of financial position of power generating company in Gujarat and depth study of pre and post reform period "The Electricity Act 2003 replenish all others electricity Acts and rules. Gujarat Electricity Board is unbundling with effect

from 1st April 2005.Consequently ten years from pre and post period is reasonable so 1995

to 2005 (Erastwhile GEB)period for pre reform period and equal period of ten years i.e

2005 to2015 (GSECL) period is selected for post reform period.

III.5 SCOPE OF THE STUDY.

An Analysis of financial performance of selected Power Generating Companies in Gujarat and in-depth study of pre and post reform period.

The various factors directly affected for improvement of financial position of the Company especially for pre and post reform period i.e. pre reform period is from 1995 to 2005 related to erstwhile Gujarat Electricity Board (GEB) and for the post reform period is from 2005 to 2015 i.e. Gujarat State Electricity Corporation Ltd. (GSEC). The scope of the financial analysis and Annual Report of the Company comprise Profit & Loss Account, Balance sheet and Cash flow of the Company. On the basis of this analysis, factors, findings and conclusion to be prepared with reference to the various laws related to Electricity and various terms and conditions of tariff determined by Gujarat Electricity Regulation Commission (GERC) and Central Electricity Regulation Commission (CERC), and what is the scope of further improvement of financial performance of Power Generating Companies

III.6 SOURCES OF DATA COLLEECTION

The study is based on the secondary data taken from the annual reports of selected power Generating Company. (GEB, GUVNL,GSECL)and data base websites. And all the data relating to history , growth and development of power sector have been collected mainly from the books and magazine relating to the power sector and published paper ,report, article and from the various news papers, bulletins and other various research reports published by power industry and research organizations, various web sites viz;

CHAPTER–4 : ANALYSIS OF THE TECHNICAL PERFORMANCE POWER PLANTS OF THE GENARATING COMPANY.

IV.1 Over view Power Sector of Gujarat

IV.1.1 Power is an essential building block of economic development. In an effort to meet the demands of rapid industrialization, the power sector of Gujarat has undergone significant growth in past few years. Areas like the resource exploration, capacity additions and sectorial reforms have been revolutionized. The power sector includes generation, transmission and distribution of electricity. The power sector has grown considerably over the years and is able to support infrastructure development in the State.

Figure 1 : Gujarat Power Sector overview.

Generation.	Generation of electricity primarily takes place from coal, gas, renewable, hydro & nuclear. Current as on 31st March 2017 installed capacity is around 27057 MW.
Transmission	GETCO is responsible for strengthening the transmission network of the State with 1770 Sub-stations & 558507 ckm of transmission lines as on 31st March 2017.
Distribution.	Distribution network provides 24*7 electricity to around 1.37 Cr consumers with lowest AT&C losses of around 15.96% in the country.

The details of the States performance & its future plans in each sector will be summarized below.

IV.1.2 Power Sector over view

Gujarat Electricity Board (GEB) was established along with the formation of Gujarat State in the year 1960 under Section 5 of the Electricity (Supply) Act 1948. Commencing with generation capacity of 315 MW and a consumer base of 1.40 million consumers, GEB today is the lifeline of over 13.70 million consumers across the State of Gujarat, with the capacity as on 31-03-2017 of 27057 MW.

During 1980s, GEB focused mostly on rural electrification, providing new connections and maintenance activities. But as it focused on the above, profitability & revenue recovery suffered hugely, GEB resulting suffered huge losses for several years denting the image of public sector in Gujarat.

No rays of hope were seen until the year 2001, when an initiative by the Government of Gujarat led by visionary politicians, proficient administrators and diligent employees took everyone by surprise. A major reformation which included multipronged strategies and tactics including unbundling of the board, renegotiation of power purchase agreements (PPA), reduction of interest rates on loans, curbing of power theft and reduction of huge transmission and distribution (T&D) losses without compromising with the quality of fuel.

IV.1.3 Industry structure

Series of reforms in the 1990s and the EA 2003 has moved the power sector towards its vision of a competitive market with multiple buyers, sellers supported by regulatory, and oversight bodies. In context to this, organizations have been formed both at the central and State Government levels to facilitate development of the power sector.

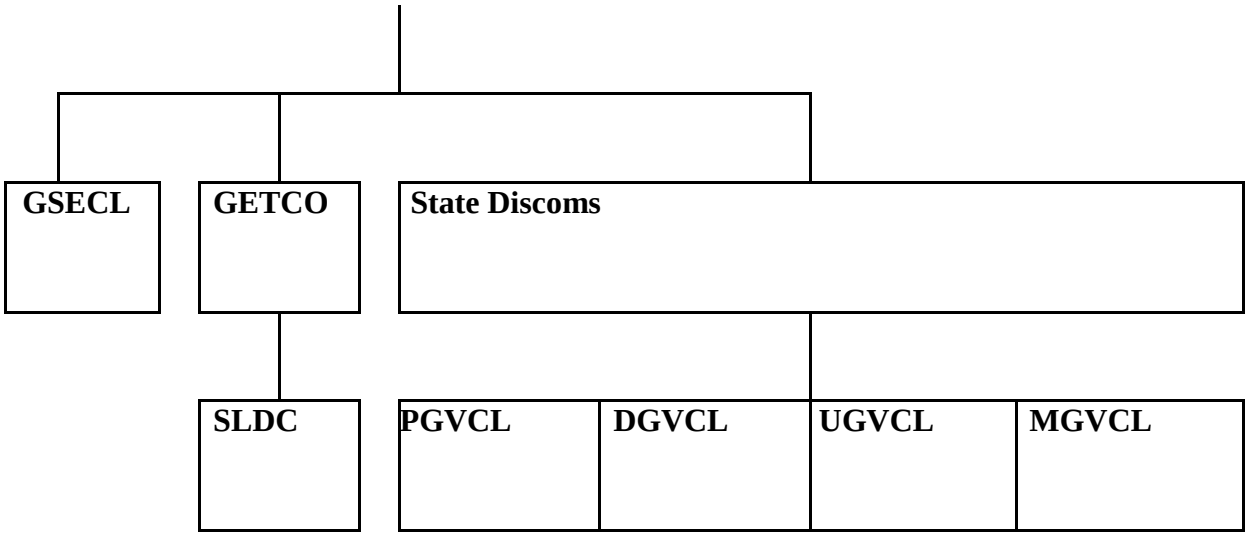
Figure 2 : Stake holder map of Power Sector

	Centre		State	
Policy	**Ministry of Power. Central Govt.**		**Energy & Petrochemical Dept. (State Govt.)**	
Appeal	**APTEL**			
Regulations	**CERC**		**SERC**	
Advisory	**CEA**			
Renewables	**MNRE, SECI**		**GEDA**	
Generation	**Central Gencos**	**IPPs**	**GSECL, GPCL**	**IPPs**
Transmission	**CTU**	**Transmission Licensee**	**GETCO**	
Distribution	**Only monitoring by ministry of power.**		**PGVCL, DGVCL, MGVCL, UGVCL, Torrent, MPSEZ, KPT**	
Trading	**Trading Licensee**		**GUVNL (State Trading Licensee)**	
System Operation	**NLDC**	**RLDC**	**SLDC/ALDC**	

The State undertook structural reforms wherein the erstwhile **Gujarat Electricity Board (GEB**) was unbundled on 1st April, 2005 into seven companies with functional responsibilities of trading, generation, transmission and distribution

Figure 3 : Gujarat State Electricity Board structure

GUVNL



Gujarat Electricity Regulatory Commission (GERC)

GERC, constituted in November 1998 is responsible to regulate & determine tariff, issue licenses, specify the Grid Code, specify and enforce standard for quality & reliability, etc. at intra-state level Promote cogeneration and generation of electricity from renewable sources of energy and Adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration

Gujarat UrjaVikas Nigam Ltd. (GUVNL)

GUVNL was incorporated as a Govt. of Gujarat Company. GUVNL is engaged in the business of bulk purchase and sale of electricity, supervision, Co-ordination and facilitation of the activities of its six subsidiary companies. It is the single bulk buyer of power in the State as the bulk supplier to distribution companies.

Gujarat State Electricity Corporation Limited (GSECL)

Post Electricity Act 2003, GEB was unbundled in 2005 & GSECL was given responsibility of electricity generation & to undertake new power projects in the State. It currently accounts for 31% (6132 MW) of the total installed conventional capacity of the State and has achieved highest ever PAF of around 83.65%.during F.Y.2017-18

Gujarat Energy Transmission Corporation Ltd. (GETCO)

GETCO setup in 1999 builds, operates & maintains State transmission network, company has made significant progress in network capacity addition, transmission asset management, State grid operation, smart solutions and human resource development. Currently it has transmission network of about 58507 ckm and 1,700 sub-stations with transformation capacity of around 105200 MVA.

Distribution Licensees in Gujarat : Undertake the electricity distribution and retail supply in the State of Gujarat

Table no 4.1 Distribution Licensees in Gujarat

State Discoms	Other Discoms
DGVCL	Torrent Power
MGVCL	Aspen
UGVCL	Kandla Port Trust
PGVCL	Adani MPSEZ Utilities Pvt. Ltd.

IV.1.4 Policies & Regulations in Gujarat

Power in India is a concurrent subject, implying that the onus of development of the sector lies both with the Central as well as the State Governments. State Power sector & regulatory landscape come under purview of State Government and GERC. Under the guiding principles of central level policies, Gujarat State Government & Regulatory Commission have come up with various policies & regulations for development of power sector, providing energy access to all at affordable price and to deal with environmental issues in the State

Major Policy & Regulations issued by Gujarat. Viz.

Solar , net metering , DSM, WIND ENRGY, Waste to Energy Policy ETC.

CHAPTER–5 : ANALYSIS OF THE FINANCIAL PERFORMANCE OF THE GUJARAT STATE ELECTRICITY CORPORATION.

Financial Management of Power sector.

All Most all state Electricity Board was under the control of State Government.

Revision of Tariff decided by State Government as per the Political position. Considering free or very nominal/concessional rate to Agriculture Farmers by Government. Due to this revenue from sale of Power not equal to Cost to supply. Subvention Subsidy was available to SEB but payment of all types subsidy was not paid within time limit by State Government. Consequential net effect was to borrow more &more money froms Banks/FI for working Capital. Interest on working increased day by day to manage working Capital by SEB. SEB were entitled to get a rate of return of 3% on their net assets. The financial position of the

SEB had started was Bad to worst. Free/ flat rate of power to Agriculture Farmers there for Rate for other Categories ware increase very high due to cross subsidy. In spite of adequate provision of Tariff and minimum rate on Assets has no impact financial performance of SEB. Due to theft and higher A T & C loss was adjusted towards Agriculture consumption of non-metter consumers. An Analysis of Financial Parameters can be made by following methods. viz.

(1) Ratio analysis
(2) Standards of Comparison
(3) Time Series Analysis
(4) Cross-Sectional Analysis
(5) Industry Analysis

Interpretation of Financial Parameters

TESTING OF HYPOTHESIS

HYPOTHESIS NO. H.O.1

Null: There is no significant improvement in means score of Profitability indicators on the financial performance of power generating company in Gujarat during period of pre and post reform

ALTERNATE: There is significant improvement in means score of Profitability indicators on the financial performance of power generating company in Gujarat during period of pre and post reform

Calculation of P value ,Correlation, Coefficient and T stat Table No of Gross Profit

P value	Pearson Correlation	Coefficient	t stat
0.18932	-0.4523235	-0.1645601	-1.43457

Interpretation

(1) From the model summary R indicates the prediction of the dependent Variable has value of 0.4523. The R square, coefficient of determination which is the proportion of variance in the dependent variable and independent variable is found = 0.2046 R is Positive it indicate both variable increase together .It shows that Loss/profit during pre reforms increase simultaneously profit increase in proportionate/comparable

(2) The ANOVA table shows that the independent variable statistically predict the dependent variable, F (10,8)=2.058005,P<0.05 that is regression model is a good fit of the data.

(3) A Null Hypothesis is Hypothesis that says there is no statistical significance between the two variables. In this test P-Value=0.1893 is less then or equal to the significance level (x Alpha=0.05), There for the Null Hypothesis is Rejected. We

reject H01. So it is conclude that there is enough evidence to infer that the Alternative Hypothesis is true.

Hence for it is Concluded as under.

"There is significant improvement in context to score of Profitability indicators on the financial performance of power generating company in Gujarat during the period of pre and post reform"

Calculation of P value ,Correlation, Coefficient and T stat of Net Profit Ratio

P value	Pearson Correlation	Coefficient	T stat
0.207713	-0.43608423	-1.3706239	

Interpretation

(1) From the model summary R indicates the prediction of the dependent Variable has value of 0.4360. The R square, coefficient of determination which is the proportion of variance in the dependent variable and independent variable is found =0.1901.

(2) The R square, coefficient of determination which is the proportion of variance in the dependent variable and independent variable is found = 0.4360 R is Positive it indicate both variable increase together .It shows that Loss/profit during pre reforms increase simultaneously profit increase in proportionate/comparable

(3) The ANOVA table shows that the independent variable statistically predict the dependent variable, F (10,8)= 1.8786 ,P<0.05 that is regression model is a good fit of the data.

(4) A Null Hypothesis is Hypothesis that says there is no statistical significance between the two variables. In this test P-Value= 0.2077 is less then or equal to the significance level (x Alpha=0.05), There for the Null Hypothesis is Rejected. We reject H01. So it is conclude that there is enough evidence to infer that the Alternative Hypothesis is true.

(5) From the calculated Pearson Correlation statistics , P-value= 0.2077<0.05. Null Hypothesis (Ho) is rejected.

For that , it is Concluded as under.

There is significant improvement in context to score of Profitability indicators on the financial performance of power generating company in Gujarat during the period of pre and post reform.

HYPOTHESIS NO.H.O. 2

Null: There is no significant improvement in means score of liquidity indicators on the financial performance of power generating company in Gujarat during period of pre and post reform

ALTERNATE: There is significant improvement in means score on the financial performance of power generating company in Gujarat and post reform of liquidity indicators during period of pre reform.

Current Ratio			

Interpretation :

(1) From the model summary R indicates the prediction of the dependent Variable has value of 0.3291. The R square, coefficient of determination which is the proportion of variance in the dependent variable and independent variable is found = 0.1082 R is positive . It indicate that both variables increase / decrease together.

(2) The ANOVA table shows that the independent variable statistically predict the dependent variable, F (10,8)=0.9714 ,P<0.05 that is regression model is a good fit of the data.

(3) A Null Hypothesis is Hypothesis that says there is no statistical significance between the two variables. In this test P-Value=0.3531 is more than the significance level (x Alpha=0.05), There for the Null Hypothesis can not be Rejected.. So it is conclude that there is enough evidence to infer that the Null Hypothesis is true.

(4) From the calculated Pearson Correlation statistics , P-value= 0.3531<0.05. Null Hypothesis (Ho) is Accepted.

Therefore it is Concluded as under.

"There is no significant improvement in context to score of liquidity indicators on the financial performance of power generating company in Gujarat during the period of pre and post reform ,However There is no improvement in liquidity , because operating expenses more or less in proportion, but financial and subsidy impact on liquidity.

HYPOTHESIS NO. H.O. 3

Null: There is no significant improvement in means score of Leverage indicators on the financial performance of power generating company in Gujarat during period of pre and post reform

ALTERNATE: There is significant improvement in means score of Leverage indicators on the financial performance of power generating company in Gujarat during period of pre and post reform

Calculation of P value ,Correlation, Coefficient and T stat of Debt Equity Ratio			
P value	Pearson Correlation	Coefficient	t stat
0.314663	-0.35463254	-0.02372375	-1.07277

Interpretation :

From the model summary R indicates the prediction of the dependent Variable has value of 0.3546 The R square, coefficient of determination which is the proportion of variance in the dependent variable and independent variable is found = 0.1257 R is positive . It indicate that both variables increase / decrease together.

(1) The ANOVA table shows that the independent variable statistically predict the dependent variable, F (10,8)=1.15085 ,P<0.05 that is regression model is a good fit of the data.

(2) A Null Hypothesis is Hypothesis that says there is no statistical significance between the two variables. In this test P-Value=0.3146 is more than the significance level (x Alpha=0.05), There for the Null Hypothesis can not be Rejected.. So it is conclude that there is enough evidence to infer that the Null Hypothesis is true.

(3) From the calculated Pearson Correlation statistics ,

P-value= 0.3146>0.05. Null Hypothesis (Ho) is Accepted.

Hence , it is Concluded as under.

There is no significant improvement in context to score of Leverage indicators on the financial performance of power generating company in Gujarat during the period post reform, During company has debt equity ratio increase as compare to pre reform period. There was no equity capital ,every thing was managed by Debts finance. Equity was reduce regularly due to loss of GEB. However in post reform GSECL earn regular profit and infusion of equity in business of the company

HYPOTHESIS NO. H.O 4

Null: There is no significant improvement in means score of Operational Key parameters indicators on the performance of power generating company in Gujarat during period of pre and post reform.

ALTERNATE: There is significant improvement in means score of Operational Key parameters Indicators on the performance of power generating company in Gujarat during period of pre and post reform.

Interpretation :

From the model summary R indicates the prediction of the dependent Variable has value of 0.498 The R square, coefficient of determination which is the proportion of variance in the dependent variable and independent variable is found = 0.9211 R is positive . It indicate that both variables increase / decrease together.

(1) The ANOVA table shows that the independent variable statistically predict the dependent variable, F (10,8)=50.4316 .

Hence , it is Concluded as under.

"There is no significant improvement in context to score of operational key parameters. It indicators on the operational of power generating company in Gujarat during the period post reform increasing During as compare to post reform period. "

Interpretation :

From the model summary R indicates the prediction of the dependent Variable has value of 0.8173 The R square, coefficient of determination which is the proportion of variance in the dependent variable and independent variable is found = 0.6679

R is positive It indicate that both variables increase / decrease together.

(1) The ANOVA table shows that the independent variable statistically predict the dependent variable, F (10,8)=18.1012 .

(2) A Null Hypothesis is Hypothesis that says there is no statistical significance between the two variables. In this test P-Value=0.0021 is less than the significance level (x Alpha=0.05), There for the Null Hypothesis can not be Accepted... So it is conclude that there is enough evidence to infer that the Alternative Hypothesis is true.

(3) From the calculated Pearson Correlation statistics , P-value= 0.0021. >0.05. Null Hypothesis (Ho) is Rejected.

For that, it is Concluded as under.

There is significant improvement in context to score of operational key parameters. It indicators on the operational of power generating company in Gujarat during the period post reform increasing During as compare to post reform period. However share of Government of Gujarat is decreasing against this share of Private is increasing re**installed capacity in MW of Gujarat**

As a Consequence , it is Concluded as under.

There is significant improvement in context to score of installed Capacity in MW is a key parameters availability . It indicators on the installed capacity of power generating Gujarat in Gujarat during the period post reform increasing increase

During post reform period as compare to pre reform period. It conclude that there is an adequate installed Capacity in Gujarat for supply of Power in Gujarat. Over and above there is additional capacity for surplus power in Gujarat after reform period

CHAPTER - 6 : COMMERCIAL & REGULATORY ASPECTS

VI .1.Formation of State Electricity Regulatory Commission.

The State Electricity Board was working under the Energy Deptt. of State Govt. The tariff was determined by the Govt. The Minister of Govt. was deciding on the consideration of the local environment, political stability and vote Bank etc. Therefore, there was no regular revision of tariff of power by the State Electricity Boards.

The State Govt. also announcing various schemes to offer concessional rate or free power to the farmers, Nagar Palikas, Water Works etc. The difference between cost to serve and concessional tariff/free supply is the amount of subsidy. But the Govt. is not providing subsidy at regular intervals as and when due. However, it was released at the time of availability of budget of the State Govt. Therefore, all the State Electricity Boards suffer huge working capital gap and increase the burden of interest on working capital.

The Govt. of India had considered the reform of power sector and reviewed one of the factors of financial crises of State Electricity Boards. Therefore, Govt. of India has amended the Electricity (Supply) Act, 1948 in 1991 as "The Electricity Law (Amendment) Act, 1991" for formation of State Electricity Regulatory Commission. The State Electricity Regulatory Commission has to set up the tariff rules and approve the tariff of the utilities and stake holders. The State Electricity Regulatory Commission is independent body by Special Act, so there is no control of the State Govt. .

Independent Regulation :

For regular revision of tariff, Govt. has established the State Electricity Regulatory Commission (SERC) as well as Central Electricity Regulatory Commission (CERC) to frame the terms and conditions of tariff. Approval of Power Purchase Agreement, Multi Year Tariff and other misc. activities related to power sector.

VI .2. Laws Relating to Electricity in India.

The electricity is in concurrent list of the constitution of India. Therefore, Central Govt. as well as State Govt. both are responsible for the development and administration of electricity sector. The Indian Electricity Act 1910 is Act before Independent/Republican of India mainly to provide for supply and use of electrical energy and right and obligation of licensees. The Central Govt. has amended the various laws

The Electricity Supply Act, 1948. To over come the difficulties, the Govt, has decided to replenish this Act and introduced the new Act known as The Electricity Act, 2003 .

The main features of the Act are as under :-

To given different licensee for generation and captive generation.

1 For transmission, distribution and trading of power, licensee is required.

2 To unbundle the State Electricity Board.

3 To set up State Regulatory Commission and Appellate Tribunal.

4 Metering of electrical supply is mandatory.

5 To more strength the provision related to theft of electricity.

6 Central Govt. to prepare National Electricity policy and Tariff policy as well as National Electricity Plans.

VI .3. Determination of tariff of power Generating Companies by Regulator.

State Electricity Regulatory Commission (SERC) is determine the tariff as per the guidelines issued by CERC and other policy of Government . Commission is authorized as per Section 61 of The Electricity Act 2003. (this authority is regulatory authority (SERC / CERE)). SERC is determine tariff in two parts viz. A. Energy charge and B .capacity Charge.

CHAPTER – 7 : CONCLUSION AND SUGGESTIONS

This chapter gives the summary of the entire findings and highlights of the significant conclusions. It concludes with major findings, conclusions and suggestions as to an analysis of financial performance of selected power generating company in Gujarat and an in depth study of pre and post reform period.

SUGGESTION

I. Fuel Aspects

(1) At present the coal is provided to Gujarat by Coal India Limited and its subsidiaries as per the approved linkage. However, many a times the quality of coal received at Power Stations does not match with the grade of coal billed, which sometimes, resulted in excess payment of coal in the case of inferior quality of coal received by the Power Stations. (GCV – ADB does not change in transit). In order to avoid this, Govt. of India has instructed to appoint an independent Third Party Agency for a transparent process for undertaking the work of sampling and analysis of coal at the loading end. However, Third party sampling at unloading end for coal supplied by CIL and payment should be made as per the actual rate for coal received at Power Stations.

(2) The Fuel Supply Agreement of Coal India Limited is unilateral and totally in favor of the Coal Companies. However, it should be drafted by mutual agreed terms and conditions and true and fair view should be taken for consideration.

(3) The domestic coal shortage of NTPC pit head stations can be mitigated by offering the allocated coal by respective States and get full power as per the allocation. This will reduce generation cost of power for consumers.

(4) Captive Coal allocation to State Government owned companies should be allowed through Mines and Power Plant Developer (MPDO) on the basis of lowest generation cost of power to the State.

(5) GST on captive coal extraction is 18% where as GST on Sale of Coal is 5 % so the Govt. should provide same tax rate to the Captive coal production.

(6) Government should allocate the coal mines in such a way that the coal mines having lower stripping ratio and higher grade of Coal, so that cost per 1000 kg/cal. would be lower.

(7) To develop overseas coal mines, long term contract as well as equity contribution in mines should be made.

(8) Creation of sovereign fund for import coal through taking equity in mine and long term supply contract.

(9) Rationalisation of railway freight by introducing the telescopic rate to reduce the transportation cost. The railway freight should be charged for the actual shortest and safest distance only.

7 Regulatory Aspects

a. At present tariff is determined as per the norms determined by CERC/GERC for five years. However, these norms are also applicable for the old installed Power Stations prior to reform i.e. before 1990. For old Power Plants, separate norms to be determined or allow demolishing old power plants with new super critical Power Plants for better utilization of coal and reducing the generation cost for public at a large.

b. The norms are decided for five years and MYT order determines the norms for control period. This may be matched in the initial stage, but there is an increase in variance in future. As per MYT rules, excess expenditure to be recovered and savings in expenditure to be passed on to consumers. This estimate is prepared for the control period order issued by the Regulatory Commission. As per this, all utilities have to file ARR and truing up

order to claim for the excess expenditure or saving passed on to the consumers in the next financial year after completion of the final accounts.

c. At present, the dispatch instruction is given on the basis of Merit Order operation. It means the lowest generation cost should be allowed highest generation. However, old units of State Electricity Board having low fixed cost, but higher variable cost, in that case, total cost should be considered especially of State Electricity Board's Plant."

(1) Policy Aspects:

1 " Renewable energy is to be promoted especially for solar compared to wind farm because solar energy is predictable. However, it is difficult to predict the wind for a particular time. Therefore, to maintain the grid discipline, solar is more reliable than wind power.

2 As we know that solar energy is quiet sufficient in India and it will be lost opportunity for us not to leverage on the same. There are quite a few countries (especially Germany) that have largely benefited from this. Roof tops of various houses/building can be used to house solar panels to get the much needed real estate. In terms of technology we have what is called the on Grid solar system, where in the power generated by each house hold is feedback to the grid. So for citizens it benefits from the fact that the amount of energy they feedback to the grid is paid back to them. So you can create power self-sustaining cities. Government can assist in helping with initial investments via PPP or citizens can be given loans/incentives for the initial cost of installation.

3 This would mean that government also gives additional incentives to these industries who manufacture solar equipment leading to their expansion and hence more jobs created in these industries.

4 RPO should be made uniform in terms of percentage of their consumption throughout the country for all the district licensees and bulk consumers.

5 Renewable specially wind and solar should be scheduled and procured centrally by agency like NVVNL on national level. This will help to harness the maximum renewable potential of the country.

6 Developing the all hydro potential through central agency like NHPC or joint venture with State Government on cost plus model.

7 Bankable Fuel Supply Agreement to attract foreign investment.

8 The PPA life may be reduced to 12 to 15 years and after that private developer may be allowed becoming merchant plant.

9 Section 80(i)(a) of the Income Tax Act should be restored and allowed the benefit of 10 years under the normal as well as MAT case also.

Impact of Taxation on Power Sector

The fuel is an important component in the energy chain in India. The taxation on fuel is very heavy and should be brought down. The Govt. need to revoke the fiscal frame work. VAT is a "bug bear" for LNG and entire gas business. The tax cost are loaded into the tariff. The consumer cannot take the benefit even though it is being paid in the energy chain. There is urgent need for national fuel policy and reform in taxation structure to look at the difference between various States and attempt for the harmonisation of VAT between the States. The State which have high rates are putting themselves at dis advantage e.g. Gujarat is killing industries with extremely high level of taxes in Naphtha, Gas etc. It was pointed out that in China, industrial power cost is Rs.2.50 per unit wherein in Gujarat it is Rs.5.00 per unit. If cost of power is not brought down in India, it never become a manufacturing country.

The Central Govt. should realize that fuels are having national importance. Therefore, particularly Naphtha, Gas etc. should be declared as "Declared Goods" and therefore subject to only CST rate of maximum 2% rather than continuing with 22%. The electricity must be treated as zero rated goods, so that all the taxes paid upto that point can be claimed back as CENVAT Credit/Input Tax Credit.

The SEBs are bearing the burden of development of the Power Sector. The Central Govt. has to share this burden. The import terminals and pipelines must get the equal fiscal treatment. They should be recognized as infrastructure facility and get lower custom duty. Giving a specific duty exemption to crude oil for power generation is worth considering as there is no question of leakages. The VAT/GST holiday for 5 years for new Power Projects might also be examined.

The Govt. of India has exempted customs duty for Mega Power Plants. However, this benefit is also required to be passed to all the Power Projects. Deemed Export benefit to domestic suppliers available for Mega project should be extended to all Power Projects.

Even though it is mentioned in section 80-IA read with 10-23G, that all Transmission and Distribution companies are eligible for getting the benefit, no Transmission and Distribution project has been approved u/s 10-23G. Power Sector must be seen in totality. Generation cannot stand alone without T&D. So the spirit of the act should be extended to all, be it generation, transmission or distribution. For this, procedures have to be stream lined. This will have a great impact on the final tariff.

In the hydro power sector in the initial years, the tariff is high and it tapers down over a period of time. Such projects should get long term funding with a moratorium period of at least seven years and repayment for 15 to 20 years.

POWER BOND should be introduced. Just like Indira VikasPatras which helped to reduce the total deficit of GOI, if **POWER BOND** are introduced., it will bring in investment and hence improve the economy. The power companies should be allowed to invest in bonds u/s 80-IA, 54-EAC.

At the end of the thesis, bibliography and appendix would be there.