5. FINANCIAL RESTRUCTURING PLAN (FRP)

Development of a FRP for the State electricity sector is a critical step towards realisation of reform goals as it documents the likely financial and commercial scenario of the future by committing specific efficiency improvement targets on part of erstwhile GEB / successor entities and elucidating the support required from various stakeholders; primarily GoG and GERC. The FRP is being developed as a part of the reform & restructuring exercise by GEB in close association with GoG.

5.1 Objectives and its significance

The principal objectives of the FRP initiated by erstwhile GEB and GoG are:

- Provide clean Balance Sheets to the successor entities of erstwhile GEB through extensive clean up, write-offs and restructuring.

The financial statement of GEB has been subjected to scrutiny and possible clean-up are being undertaken to provide a more fair and accurate state of the affairs. This, being the starting point for building-up the businesses of the newly formed entities, is definitely a crucial exercise.

Developing a balanced capital structure for all the sectoral entities is critical for providing a healthy base for the sectoral entities to have independent business operations. The proposed FRP adopts a pre-defined Debt–Equity ratio (D : E ratio) as the basis for developing the opening financial statements based on prudent commercial norms. It is being endeavoured to

provide a healthy balance sheet for all the sectoral entities as a starting point to enable development of a self-sustainable sector.

Towards this objective, the FRP also factors in realistic values for the assets. A consultant's report on the estimated value of assets has been obtained by GEB. Based on this report, appropriate value has been ascribed to the assets of GEB and the same has been considered while preparing the opening balance sheets of the successor entities.

- Ensure stability in the revenue streams of the entities by defining a clear path for future GoG support to be provided to each entity after considering the regulatory risk in terms of tariff increase, disallowance of revenue requirements, etc.

The FRP based on a set of realistic assumptions, forecasts the future revenue and expenditure streams along with the other business parameters for the entire sector. Some of the assumptions are external to the sectoral entities and can only be assumed on the basis of historical behaviours e.g. tariff increase by the Independent Regulator. While the increase in tariff has been conservatively assumed, all possible efforts are directed to increase the efficiency of the sectoral entities e.g. energy loss reduction, increase in collection efficiency, generation efficiency (increase in PLF) etc.

The FRP also recognizes the subsidy payment mechanism (GoG subsidy and revenue support) as one of the critical area for future financial sustainability of successor entities. The FRP assumes timely disbursement of GoG support to the sector to fund the subsidised electricity to the specific consumer

categories and the revenue support till the sector transforms itself to a self-sufficient system purely on commercial terms. The financial plan has been designed to progressively reduce the dependence of the sector on GoG, which will ultimately emerge as a net contributor to the exchequer's finance.

The FRP also identified certain avenues for GoG to meet the additional fund requirements for the electricity sector during the transitional phase. These alternatives are discussed in detail in the later part of this report.

- Ease cash outflows of the successor entities through rescheduling and restructuring of liabilities payable to lenders and retention of a large part of the past burden by GoG.

In the last financial year, GEB has taken considerable steps in restructuring its debt to take advantages from the reducing trend in interest rates. Negotiations have been held with almost all the Financial Institutions for reduction in the interest rates. In addition to the savings in the interest cost, GEB has successfully completed the renegotiation effort with the Independent Power Producers (IPPs) within the State for reduction in the fixed cost.

5.2 Efficiency Improvement Plan by Erstwhile GEB

5.2.1 Efficiency Improvement Measures under implementation

As a part of the reform initiatives the erstwhile GEB has taken several steps for improving its efficiency. The major initiatives in a summarised-form that have been achieved are as below:-

(a) Restructuring of long-term loans from FIs and GoG

Erstwhile GEB has completed the restructuring of its long-term loans with almost all the lending agencies namely LIC, REC, PFC, various Banks (Cash credit). The interest rates have been negotiated to bring downwards to match the prevailing market rates thereby making savings in annual cash outflows on account of interest cost. The interest rate of GoG loans has also been revised from 15% to 12%.

The total savings during the tenor of the loans is about Rs 110 Crores with annual savings of about Rs 36 Crores.

(b) Renegotiation of Power Purchase Agreement (PPA) with IPPs & reduction in gas price

Erstwhile GEB has renegotiated with different Independent Power Producers (IPPs) the fixed cost of purchase which has resulted in an annual savings of Rs 495 Crores. The Reduction in the fixed cost obligation has been achieved through reduction in return, extension of depreciation recovery, extension of base availability, reduction of rate of incentive. Negotiations on interest rates on loans taken by IPPs have led to further savings of Rs. 64 crore.

(c) System Improvement measures undertaken by erstwhile GEB

Erstwhile GEB has already undertaken a number of measures to enhance the efficiency namely:-

- System Improvement Measures
- Intensive Anti-theft drives
- Revenue Collection Measures

(d) Initiatives in Information Technology

Erstwhile GEB has stepped-up its efforts in transforming itself to an Information Technology driven utility to provide maximum benefits to

its consumers. The major activities under implementation are as given below:-

- Introduction of Wide Area Network (WAN)
- Computerised Cash Collection Windows
- Trouble Call Management
- Outsourcing of Billing Activities
- Purchase planning & monitoring system
- Computerisation of activities at O&M sub-stations
- Implementation of End-to-End IT solution

Proposed Efficiency Improvement Measures

As part of the reforms process, it is necessary for erstwhile GEB/successor entities to commit to a high degree of efficiency improvement and bring in cost savings. The financial savings expected to be generated from such efficiency improvement efforts are depicted in the following table.

Table 5.1 Incremental Reforms generated savings

Rs. Cr.

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	TOTAL
Power Purchase Cost Reduction	296	295	294	293	292	291	1,761
Reduction in general purchase costs	12	12.8	13.6	14.4	15.2	16	84
T&D loss reduction	471	556	603	711	686	634	3,661
Improvement of Generation Efficiency	24	35	78	98	114	161	510
Fuel Cost Reduction	124	124	137	149	162	174	870
Reduction in Interest costs	315	484	652	818	879	875	4,023
	1,243	1,507	1,778	2,084	2,147	2,151	10,910
Average							1,818

5.3 Power Purchase Cost

As mentioned earlier, one round of negotiation with IPPs has already been concluded. However, the efforts have not stopped there and a second round of negotiations is underway, whereby the tariff calculations norms are proposed to be revised to the prevailing CERC norms. IPPs have also restructured their high cost debt. The combined effect of these factors would be visible after completion of second round of negotiations. The combined savings expected due to these efforts are as follows:

Table 5.2 Projected Savings in Power Purchase Costs

Rs. Cr.

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Base Savings	290.66	290.66	290.66	290.66	290.66	290.66
Interest Restructuring	5.46	4.35	3.42	2.32	1.22	0.34
Total	296	295	294	293	292	291

5.4 Reduction in General Purchase Costs

As a result of improvement in the rates by better negotiation as well as a general reduction in inventory holding costs with proper inventory planning and stores control, it is expected that certain gains can be made from reduction in general purchase costs. This includes purchase of various non-fuel items, such as spares, capital items, etc.

Table 5.3 Projected Savings in General Purchase Costs

Rs. Cr.

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Projected Savings	12.00	12.80	13.60	14.40	15.20	16.00

Energy loss reduction

Revision of base year (FY 2005) T&D loss level

The energy loss reduction curve is one of the major assumptions for developing the FRP.

5.5 T&D Loss reduction trajectory

Determination of a relatively realistic energy loss level will help in creating a healthy financial and commercial projection for the successor entities as the said loss level will also be utilised for laying down plans for future efficiency improvement path. The Regulators in every likelihood will also consider it as the base line while scrutinizing the Annual Revenue Requirement of the DisComs in the future years.

The loss levels for the DisComs have been determined as a percentage of the energy input into the respective DisComs and a system loss reduction plan assumed under the Base Case as shown in Table 5.4: System Loss Reduction Plan

While reduction in technical losses would result in decreased energy requirement in the system, thereby reducing the power purchase requirements, the reduction in commercial losses is assumed to result in increased revenue for the companies.

Marginal reductions in Technical Losses have been assumed over the Projection Period. Proposed investments in transmission and distribution network have been assumed to be adequate to achieve the system loss reduction plan. The overall T&D loss reduction targets during the first six years of the reforms are provided below.

Table 5.4: System Loss Reduction Plan

Energy Losses	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Total T&D Losses in GEB system	29.79%	25.83%	22.61%	20.03%	19.10%	18.50%
Distribution losses	26.46%	22.40%	19.11%	16.51%	15.62%	15.08%
Loss reduction trajectory	4.91%	3.96%	3.22%	2.58%	0.93%	0.60%
MGVCL	23.50%	19.75%	16.50%	14.00%	14.00%	14.00%
UGVCL	20.25%	16.50%	14.00%	14.00%	14.00%	14.00%
DGVCL	25.39%	21.64%	18.39%	15.68%	14.18%	14.00%
PGVCL	35.75%	31.25%	26.75%	22.25%	20.75%	19.25%
Transmission loss as a % of input	4.52%	4.42%	4.32%	4.22%	4.12%	4.02%

An overall reduction of 11.29% is considered to be achieved over a period of 6 years (FY 2005-06 = 29.79% to FY 2010-11 = 18.50%). A loss level of 14% (consolidated) has been assumed to be "most optimum" for the sectoral entities. As evident from the table, different reduction paths have been considered for different DisCom depending upon their loss level in the base year (FY 2005).

The annual loss reduction path trajectory for Aggregate Commercial and technical (AT&C) losses for various DisComs are as follows:-

Table 5.5 AT&C losses for Gujarat DisComs

Discom	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
MGVCL	4.75%	3.75%	3.25%	2.50%	0.01%	0.00%
UGVCL	4.75%	3.75%	2.50%	0.00%	0.00%	0.00%
DGVCL	4.75%	3.75%	3.25%	2.71%	1.50%	0.18%
PGVCL	4.50%	4.50%	4.50%	4.50%	1.50%	1.50%

It may be observed from the above table that aggressive targets have been set for reduction in AT&C losses by the Distribution Companies. The targets are higher than those set in many other states as well as those that have been actually achieved in the past few years. However, it is felt that the reform process must also have an element of challenge for all stakeholders. It should also be observed that with the adoption of such aggressive targets, it would be essential that GoG ensure timely release of anticipated quantum of subsidy, failing which the Distribution companies would be put in a liquidity crunch. The aggressive targets increase the dependence of sectoral entities on GoG Support and leave very little leeway in their tolerance threshold for delay/denial of support.

Energy loss reduction path for other reforming States

The loss reduction actually achieved by other distribution utilities in the country is provided below for comparison.

Table 5.6 T&D loss reduction curve – Other States

Utility	2000-01	2001-02	2002-03
Rajasthan DisComs			
Rajasthan - Jodhpur VVNL	40.93%	39.60%	41.03%
Rajasthan - Jaipur VVNL	38.38%	38.50%	39.32%

Utility	2000-01	2001-02	2002-03
Rajasthan - Ajmer VVNL	35.72%	35.74%	39.50%
AP DisComs			
CPDCL		30.71%	22.66%
SPDCL		23.12%	21.23%
EPDCL		17.42%	16.80%
NPDCL		24.39%	21.23%
HSEB/ Haryana DisCom	39.76%	39.22%	39.02%

It is noteworthy that Delhi Vidyut Board (DVB) which was unbundled into six entities (One holding Company, GENCO, TRANSCO and three DisComs) privatized its Distribution activity on the basis of "loss reduction curve". The commonly used T&D loss was replaced by "Aggregate Technical & Commercial (AT&C) Loss" to factor in the energy losses as well as revenue loss.

Table 5.7 Loss reduction curve – Norms for privatization of DVB

DisCom	2002-03	2003-04	2004-05	2005-06	2006-07
CEDEDCL	0.75%	1.75%	4.00%	5.65%	5.10%
SWDEDCL	0.55%	1.55%	3.70%	6.00%	5.60%
NNWDDCL	1.50%	2.25%	4.50%	5.50%	4.25%

5.6 Generation efficiency improvement

Assumptions regarding various efficiency parameters have been considered to factor in improvements in generation. These include station heat rate, plant availability factor, auxiliary consumption, specific consumption of secondary fuel, etc.

The net incremental reform linked savings as a result of the expected increase in various efficiency parameters are as below:

Table 5.8 Projected Savings from generation efficiency

Rs. Cr.	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Ukai	0.29	0.30	8.31	8.55	8.81	15.00
Gandhinagar	0.00	2.46	24.24	29.85	30.75	47.49
Wanakbori	16.53	17.02	26.30	27.09	27.90	38.32
Sikka	6.84	7.16	7.48	9.55	9.96	10.32
KLTPS	0.28	0.44	2.27	2.33	4.39	4.51
Dhuvaran	0.00	7.44	8.08	18.72	29.99	41.93
GTPS-5	0.09	0.10	0.15	0.20	0.21	0.21
WTPS-7	0.00	0.00	1.63	1.68	1.73	3.57
Total	24.03	34.92	78.46	97.97	113.74	161.35

5.7 Reduction in Fuel Costs

Fuel expenses constitute a major part of expenses of GEB. Control over these costs would also lead to lower cost of GEB generation. By implementation of various measures, the following are the expected savings in fuel costs:

Table 5.9 Projected Savings in Fuel Costs

Rs. Cr.	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
LSHS	36	36	36	36	36	36	36
Captive Mining				12.5	25	37.5	50
Washed Coal	60	88	88	88	88	88	88
Total	96	124	124	136.5	149	161.5	174

5.8 Reduction in Interest Costs

The successor companies proposes to ensure major savings by way of restructuring high cost debt and migrating to lower cost debt. The action plan to reduce interest costs would be primarily focused on restructuring the private placement Bonds issued by erstwhile GEB. The following are the savings expected on account of reduction of interest costs:

Table 5.10 Projected Savings in Interest and Financing Cost

Rs. Cr.

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
PFC Term Loan	2.53	2.53	2.53	2.53	2.53	2.53
Bank Int and Charges	22.47	22.47	22.47	18.62	18.62	18.62
Bonds	13.97	12.97	10.97	10.97	4	0
Fin Institutions	2.82	2.82	2.82	2.82	0	0
LIC	3.53	3.53	3.53	3.53	3.53	3.53
DPC	0	0	0	0	0	0
Total	45.32	44.32	42.32	38.47	28.68	24.68

5.9 Significant issues and way-forward

The most critical issues to be addressed for developing a workable and sustainable FRP are discussed below. It is to be noted that the active intervention of GoG is a prerequisite for achieving such a goal. In the other reforming States, the respective State Governments have played key roles in rolling out successful reform implementation plans. Various Committees at the national levels have also acknowledged the criticality of roles of State Governments in this regard. Extracts of such reports are provided at the end of this report.

The following areas have been identified as "Significant Issues":-

a) Treatment of accumulated revenue losses of erstwhile GEB
b) Erstwhile GEB has closed its books of accounts (provisional) for the financial year 2004-05 with an accumulated loss of Rs. 8394.29 Crores.
c) The Board reported an amount of Rs. 2343.37 Crores as "Receivables against supply of power" as on 31st March 2005. The reported receivable balance requires a detailed analysis for ascertaining the quality of the receivable. In order to provide a cleaner balance sheet, the FRP assumes different basis for making provisions for different categories of receivables.
d) However, this is a transitional arrangement till such time the when management becomes reasonably informed about the quality of the receivables. Based on this information, a comprehensive decision for write-offs or, provisioning has been taken up by the management of respective companies. It is worthwhile to mention that detailed provisioning or write-offs will be a part of the Transfer Scheme, which will be notified by GoG at the end of the provisional period of Transfer scheme. The FRP assumes an additional amount of Rs. 1022 Crores as "Provision for doubtful debts" for the receivables outstanding as on 31st March 2005.
e) The availability of un-utilised reserve funds under various accounting heads have been duly considered while cleaning-up the Balance Sheet. The "Consumer Contribution" has also been completely utilised for reducing the Accumulated losses. The losses have been further adjusted to factor in an increase in value of assets. The balance surplus

remaining after all the structural adjustments would be treated as GoG Equity holding in GUVNL and would be offset in future against possible losses in GUVNL.

f) The revised accumulated losses as on 31st March 2005 is given below:-

Table 5.11 Revised Accumulated Revenue Losses (as on 31st March 2005)

Particulars	Rs. Cr
Accumulated losses as per Provisional a/c (A)	8394
ADD: Additional Provisioning for bad and doubtful debt (B)	1022
LESS: Write-offs / adjustments (C)	5,027
Consumer contribution	1,866
Subsidy towards cost of capital assets	458
Grant towards cost of capital assets	745
Donated Capital assets	12
Reserve & Reserve funds	319
Takeover of CPSU bonds by GoG	1628
Adjusted Revenue Losses (D=A+B-C)	4389
Increase in value of assets (E)	5295
Conversion of GoG loans into equity (F)	623
Net Surplus – treated as GoG Equity contribution in GUVNL (G=F+E-D)	1529

5.10 Allocation of long-term liabilities outstanding as on the date of unbundling

The outstanding liabilities of GEB as on 31st March 2005 may be categorized into three broad categories namely:-

(i) GoG loans amounting to Rs 1463 Crores

(ii) Bonds (privately placed) and other loans from financial institutions amounting to Rs 6531 Crores

(iii) CPSU bonds amounting to Rs 1,628 Crores

The transfer of accumulated losses or the long-term liabilities disproportionate to the strength of the balance sheet of the new entities will defeat the very purpose of the FRP.

The D:E ratio as explained below has been considered for allocating the long term loans to the new entities after allocating the project-specific identifiable loans. As transfer of the long-term liabilities disproportionate to the strength of the balance sheet of the new entities will defeat the very purpose of the FRP, a D:E ratio of 50:50 has been assumed for West Discom and Transco while a ratio of 60:40 has been assumed for all other successor entities. Though the successor entities would have been healthier in case the ratio was lower, it would have resulted in GUVNL carrying these extra liabilities. After extensive discussions within GEB, it was decided to keep the D:E ratio at 50:50 for two successor entities and 60:40 for the others.

Any debt that cannot be absorbed in the new companies after application of the fixed D:E ratio, would be retained within GUVNL and serviced using the overall GoG support package. It is, however, assumed that GoG would takeover the liabilities of CPSU bonds and would convert the GoG loans aggregating to Rs. 623 crores into equity in GUVNL. The remaining GoG loans would be converted into interest free loans during the turnaround period.

The Opening Capital Structure on the basis of the above assumption is as below:-

Table 5.12 Proposed Capital Structure – function-wise

Capital Structure as on 1st April 2005 (Rs. Cr.)	MGVCL	UGVCL	DGVCL	PGVCL	GETCO	GSECL	GUVNL
Long term Assets	693	1,169	683	1,927	3,989	3,750	16
Capital WIP/ Deferred Costs/ Intangible Assets	-	-	-	-	-	-	44
Investments	-	-	-	-	-	-	247
Investments in Successor Companies	-	-	-	-	-	-	6,081
Current Assets	324	487	605	673	154	800	698
Subsidy receivable from GoG	2	-	-	-	-	-	14
Total Assets	1,018	1,656	1,289	2,600	4,142	4,550	7,099
Current Liabilities	275	429	439	631	290	899	2,115
Allocable Consolidated Debt and Equity	743	1,227	850	1,969	3,852	3,650	4,984
Less: Scheme Specific debt assigned (a)	15	111	106	234	348	424	-
Working Capital Borrowing & Capital Liabilities (b)	17	38	42	37	-	-	2,742
Debt from GUVNL assigned (c)	414	587	361	714	1,578	1,766	712
Total Debt Fund (2=a+b+c)	446	736	510	984	1,926	2,190	3,455
Equity Capital (3)	297	491	340	984	1,926	1,460	1,529
Desired Debt: Equity Ratio	1.5	1.5	1.5	1.0	1.0	1.5	2.3

5.11 Opening Balance Sheet and Key Ratios

On the basis of the capital structure as well as the clean up and adjustments described in the prior sections of this report, the balance sheet of erstwhile GEB as on 2004-05 was disaggregated into the opening balance sheets of the successor entities. In case of Genco and Transco, the current balance sheets of GSECL and GETCO have been consolidated in the opening balance sheets presented here.

The loan allocation for both long and short term loans has been optimised keeping in view the key ratios. An aggressive Debt/Equity ratio of 60:40 has been adopted for most successor entities to start them on a challenging front. In case of West Discom and Transco, a softer Debt/Equity ratio of 50:50 has been considered so as to bring the Debt Service Coverage ratio closer to 1. Similarly, the current ratio of all successor entities has been optimised by allocation of current liabilities and the balance current liabilities have been retained in Residual GEB.

Table 5.13 Opening Balance Sheet of Successor Entities

(Rs. Cr.)

Particulars as on 1st April 2005	MGVCL	UGVCL	DGVCL	PGVCL	GETCO	GSECL	GUVNL	GEB Cons
ASSETS								
Gross Fixed Assets	712	1,363	772	2,052	4,021	6,424	20	15,364
Less: Acc. Depreciation	(108)	(202)	(102)	(296)	(613)	(1,616)	(4)	(2,942)
Net Fixed Assets (A)	604	1,161	670	1,755	3,408	4,808	16	12,423
								-
Capital Works in Progress (B)	87	7	12	166	579	211	43	1,105
								-
Assets not in use	0	0	0	1	0	1	-	2
Deferred Costs	-	-	-	-	-	12	0	13
Investments	2	1	2	4	1	6	247	263
Investment in successor entities	-	-	-	-	-	-	6,081	6,081
Total other assets (C)	2	1	2	5	2	19	6,328	6,359
								-
Net Stocks	67	79	68	200	119	281	0	814
Net receivables from sale of power	200	327	377	377	-	234	41	1,555
Cash and Bank balance	35	60	152	71	1	3	302	624
Loans and Advances	14	11	4	15	17	59	50	171
Sundry receivables	8	9	4	10	17	478	305	832
Total Current Assets (D)	324	487	605	673	154	1,054	698	3,996
								-
Subsidy receivable from GoG (F)	2	0	0	0	-	-	14	16
								-
Total Assets (A+B+C+D+E+F)	1,018	1,656	1,289	2,600	4,143	6,093	7,099	23,898

Particulars as on 1st April 2005	MGVCL	UGVCL	DGVCL	PGVCL	GETCO	GSECL	GUVNL	GEB Cons
LIABILITIES								
Equity Capital	297	491	340	984	1,927	2,042	1,529	7,610
Surplus/(Deficit)	-	-	-	-	-	231	-	231
Total Networth (A)	297	491	340	984	1,927	2,273	1,529	7,841
Total Long Term Loans (D)	429	698	468	948	1,926	2,701	760	7,929
Total Short Term Loans (E)	17	38	42	37	-	-	2,695	2,829
Security deposits from consumers (F)	170	244	293	324	0	0	1	1,032
								-
Total Current Liabilities (G)	106	185	146	308	290	1,119	2,114	4,267
Total Liabilities (A+B+C+D+E+F+G+H)	1,018	1,656	1,289	2,600	4,143	6,093	7,099	23,898

Key Ratios	MGVCL	UGVCL	DGVCL	PGVCL	GETCO	GSECL	GUVNL
Debt Equity Ratio	1.50	1.50	1.50	1.00	1.00	1.38	2.26
Current Ratio	1.11	1.04	1.26	1.01	0.53	0.89	0.15
Debt Service Coverage Ratio (end of FY 2006)	1.06	1.06	1.02	1.08	0.92	1.21	*
Interest Coverage Ratio (end of FY 2006)	1. 91	2.12	1.83	2.21	1.73	2.01	*

* The coverage ratios for Residual GEB would be negative since the operating cash flows are negative as a result of the Differential BST. Residual GEB relies on GoG intervention in form of subsidy and market borrowings to bridge the cash flow gap.

Significant Assumption for developing FRP

The FRP is developed with the help of a detailed financial model based on a number of assumptions. The significant assumptions are discussed below.

1. Sales (In MU) forecast
2. Supply forecast (merit order dispatch)
3. Tariff related assumptions (increase in tariff in %)
4. Profitability of the sectoral entities (Return on equity)
5. Subsidy mechanism, Differential Bulk Supply Tariff

5.12 Sales forecast

5.12.1 Load curve analysis

A representative demand curve was developed to be used as a base for projecting the load profiles over the Projection Period. This demand profile was then matched with the supply profile with merit order dispatch simulated for various source of power for that year to develop the dispatch levels for the generation plants and for determining the demand supply gap.

The daily supply curves for GEB system, for a representative day during each of the 12 months during the period April 2003 to March 2004, have been used to construct the representative daily load curve for the GEB system.

The representative daily load curve determined as above was the restricted load curve and the same was to be corrected for the frequency variations and energy cuts imposed by erstwhile GEB to develop the average unrestricted load curve.

However, for purpose of determining the representative daily load curve to be used for demand projections, only the frequency adjustments have been

incorporated since it is understood that the existing level of energy cuts are likely to be continued in the short to medium term given the precarious financial health of the Board.

Further, the representative load curves have been adjusted for the actual demand of the GEB system to project the daily load profiles over the projection period.

It has been assumed that the profile of the daily load curve of the GEB system as constructed herein would be applicable throughout the year and in respect of all the years under the Projection Period. Accordingly, the load curve has been scaled up, to account for the increase in the energy demand in each year of the Projection Period.

5.12.2 Sales forecast

The FRP assumes demand estimation on the basis of CAGR of the different categories of consumers. Additionally, while developing the demand estimation the recent improvement in the economy and the trend in industrialization have also been duly considered.

In case of bulk Licensees, it has been assumed that from FY 2007-08 onwards, the demand from that category will be served by the 1000 MW power project being developed by the Torrent Group. Further, it is assumed that there will be a substantial drop (of about 15%) in the demand in case of Agricultural consumers due to the implementation of the Sujalam Sufalam project. After accounting for this reduction, there will be no further increase

in supply to this category in subsequent years on account of the implementation of various Narmada canal projects as well as the Jyoti Gram project. Consequent to the implementation of Jyoti Gram project, it is expected that consumption in the domestic consumption in rural areas would be higher and hence the corresponding growth rates have been assumed on a higher side than those in the past. The growth rates assumed in the FRP are provided in the table below:-

Table 5.14 Sale Growth Rate

Category	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
LT consumers						
Domestic	7.19%	6.39%	5.65%	7.43%	7.43%	7.43%
Commercial	6.31%	6.31%	6.31%	6.31%	6.31%	6.31%
LMV Industry	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Public Lighting	4.29%	4.29%	4.29%	4.29%	4.29%	4.29%
Agriculture	2.00%	-15.00%	0.00%	0.00%	0.00%	0.00%
Public Water works	9.93%	9.93%	9.93%	9.93%	9.93%	9.93%
HT consumers						
HT industrial	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Railway traction	3.67%	3.67%	3.67%	3.67%	3.67%	3.67%
Bulk Licensees	7.98%	7.98%	-100.00%	0.00%	0.00%	0.00%

5.12.3 Supply forecast and energy balance

The FRP considers the finalized Capacity Addition plans as per the X th and XIth plan. In addition to this, various MoU, bi-lateral contracts entered into

by erstwhile GEB have also been factored while developing the "energy availability" for the projection period.

The table below illustrates the energy balance for the period FY 2005-06 to FY 2010-2011 on an aggregate basis:-

Table 5.15 Energy Balance

Particulars	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Total Energy Input (procured by GUVNL (MUs)	46,635	43,847	37,834	38,082	39,183	40,518
Transmission Losses (MUs)	2,108	1,938	1,634	1,607	1,614	1,629
Demand – Distribution (MUs)	44,527	41,909	36,199	36,475	37,569	38,890
Distribution Losses (MUs)	11,784	9,387	6,919	6,020	5,868	5,866
Total Sale (MUs)	32,744	32,522	29,280	30,455	31,701	33,024
Total Losses (MUs)	13,891	11,325	8,554	7,627	7,482	7,495
Total Losses (%)	29.8%	25.8%	22.6%	20.0%	19.1%	18.5%

The power procurement plan is based on a "Merit order dispatch (MOD)" simulation model for each of the financial years. The MOD has been drawn up on the basis of the variable cost of each of the sources. Improvement in PLF, auxiliary consumptions and availability of energy have been given due consideration after a detailed discussion with erstwhile GEB officials. The capacity additions (on the basis of plant commissioning schedule made available by erstwhile GEB) of various plants (both Central Generating Stations and State Generating Stations) together with the bi-lateral contracts have also been factored in.

Tariff related assumptions

The assumptions for increase in tariff for different consumer categories have been guided by the following:-

1. Policy direction provided in "The Gujarat Electricity Industry (Reorganisation and Regulation) Act, 2003 (GEIRRA 2003)
2. Guidelines provided in EA 2003
3. Existing cost coverage of the different category of consumers
4. Discussions with erstwhile GEB officials

High Existing Tariff

It is to be noted that electricity rate per unit in the State of Gujarat is one of the highest in the country. Apart from a remunerative tariff structure (except for Agriculture Categories) the State levies around 12% of duty on the consumers on account of Electricity Duty. Thus any increase in tariff for any category will affect the affordability of the consumers in a negative way.

As industrial consumers and railways are currently subsidising some other categories and are already paying tariffs well above the cost to serve, very limited increase has been assumed over the Projection Period. Any tariff increase could expose the DisComs to risk of Industrial consumers and railways shifting to captive sources. This risk has been accentuated by the enactment of the EA 2003, which allows immediate and automatic freedom for captive plants to be set up for use by industries or co-operatives.

Cost Coverage

The cost coverage of various category of consumers have been analysed on the basis of average Cost of Supply (COS) of the distribution business in the absence of the relevant category-wise COS. It is noted that the average realization of agriculture consumers covers about 22% of the average COS before considering any Subsidy support from GoG. The consideration of entire GoG subsidy in the year of 2004-05 improves the cost coverage for this category to about 55%.

Tariff Increase assumptions

While the Gujarat Act has mandated that cross-subsidy be gradually eliminated by increasing the tariff from each customer category to cover at least 67% of COS; it is also important to be pragmatic regarding the actual extent of increase in agricultural tariffs that can be assumed. Hence, no tariff increase has been assumed in case of agriculture for a period of five years.

The tariff for domestic and other subsidised categories have been increased to achieve 100% of COS within 5 years (by FY 2008). A minimal increase has been considered for all the remaining subsidizing categories.

The annual tariff increase considered for different consumer category is provided below:-

Table 5.16 Category-wise tariff increase

Categories	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
LT consumers						
Domestic	0.0%	5.0%	5.0%	5.0%	2.5%	2.5%
Commercial	0.0%	1.5%	1.5%	1.5%	1.5%	1.5%
LMV Industry	0.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Public Lighting	0.0%	5.0%	7.0%	2.3%	1.5%	0.0%
Agriculture	0.0%	0.0%	0.0%	0.0%	15.0%	0.0%
Public Water works	0.0%	5.0%	2.0%	5.0%	2.5%	5.0%
HT consumers						
HT industrial	0.0%	2.5%	0.0%	4.0%	0.0%	4.0%
Railway traction	0.0%	0.0%	2.0%	2.0%	2.0%	2.0%
Bulk Licensees	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%

On the basis of the projected tariff increase, the following average realisation is assumed from each customer category:

Table 5.17 Average Realisation / Unit

Categories (Rs.)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
LT consumers						
Domestic	2.91	3.05	3.21	3.37	3.45	3.54
Commercial	4.61	4.68	4.75	4.82	4.89	4.97
LMV Industry	4.17	4.25	4.34	4.42	4.51	4.60
Public Lighting	3.36	3.53	3.78	3.86	3.92	3.92
Agriculture	0.97	0.97	0.97	0.97	1.11	1.11
Public Water works	2.70	2.84	2.90	3.04	3.12	3.27
Others	0.01	0.01	0.01	0.01	0.01	0.01
Average - LT	2.28	2.48	2.58	2.69	2.83	2.93
HT consumers						
HT industrial	4.24	4.35	4.35	4.52	4.52	4.70
Railway traction	5.03	5.03	5.13	5.23	5.34	5.44
Bulk	2.80	2.89				

Categories (Rs.)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Licensees						
Average - HT	3.80	3.89	4.39	4.56	4.57	4.74
Overall	2.84	3.04	3.13	3.27	3.37	3.50

The resultant cost coverage as a percentage to the average COS is provided below:-

Table 5.18 Category-wise cost coverage

Categories (%)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
LT consumers						
Domestic	94%	100%	97%	100%	99%	102%
Commercial	150%	154%	143%	143%	140%	143%
LMV Industry	135%	140%	131%	131%	129%	132%
Public Lighting	109%	116%	114%	114%	112%	113%
Agriculture	31%	32%	29%	29%	32%	32%
Public Water works	88%	93%	87%	90%	89%	94%
Others	0%	0%	0%	0%	0%	0%
Average - LT	74%	81%	78%	79%	81%	84%
HT consumers						
HT industrial	138%	143%	131%	134%	130%	135%
Railway traction	163%	165%	154%	155%	153%	156%
Bulk Licensees	91%	95%				
Average - HT	123%	128%	132%	135%	131%	136%
Overall	92%	100%	94%	97%	97%	100%

The Electricity duty has been assumed to remain unchanged for the entire projection period (FY 2005-06 to FY 2010-11) and have been maintained at FY 2005 level.

Profitability of the sectoral entities

The FRP does not consider any return to be earned by any of the sectoral entities. The Generation and Transmission entities are assumed to operate at the "break-even" level from the date of inception. The power purchase costs from the State Owned Generating Stations thus do not have any cost component with respect to "Return on Equity". The transmission charges also devoid of any return on equity.

The DisComs are assumed to pay the power purchase bills on the basis of its paying capabilities. It is to be noted that the "paying capability" of the DisComs takes into account all efficiency measures (illustrated in the earlier sections) before arriving at the "funds available for power purchase". No returns are assumed for the DisComs for the entire projection period (FY 2005-06 to FY 2010-11). The holding company GUVNL is also assumed to earn no profit during the transition period.

5.13 Subsidy mechanism, differential bulk supply tariff

5.13.1 Subsidy

The agriculture subsidy would be provided by GoG as per the formula adopted for computation of agriculture subsidy. The existing cap of Rs. 1100 Crores would therefore become redundant. From a cash flow perspective, this amount would be paid to GUVNL and would in turn get automatically allocated to DisComs in every financial year during the projection period. This subsidy (referred as Agricultural Subsidy) shall get be apportioned amongst the DisComs in the ratio of their agriculture consumption.

The subsidy in any business should always be made available to the end-user or to the nearest possible end-user. The subsidy targeting is critical in making available the fullest use for which it is intended. Section 65 of EA 2003 explicitly provides for compensation to the affected person through payment of subsidy by the State Government due to grant of any concession to any consumer or class of consumers. DisComs being the retail suppliers of the electricity should be compensated for collecting lower amounts from any consumer or class of consumers.

5.13.2 Differential Bulk Supply Tariff

The FRP assumes uniform retail tariff for the entire State of Gujarat during the projection period. DisComs are incorporated on the basis of zonal configuration, and hence their consumer mix is not the same as original GEB but is different for each DisCom. Owning to this, the revenue earning capabilities of each of the DisComs is different. Therefore it is necessary to build-in a mechanism in the FRP adjustment to bring them to a level playing field. This is proposed to be achieved by the differential BST whereby, the BST payable by each DisCom to the residual GEB would be decided based on its ability to pay. The paying capabilities of the DisComs have been considered after taking into account the following while arriving at the differential BST

1) Consumer Mix (subsidizing to subsidised ratio)
2) Efficiency improvement plans

Various efficiency measures have already being undertaken by the sector for effective utilization of available resources. FRP also assumes a number of

efficiency improvement measures to be achieved during the transition period. DisComs with higher base year inefficiencies (basically T&D losses) have been given with a higher T&D loss reduction target (please refer to Section 0 for loss reduction curve for different DisComs)

The differential BST is an effective tool to balance the financial impact of differences in consumer mix. Efficiency bench marking and adequate scrutiny by the State Regulator will provide the necessary balancing tool in a uniform retail tariff regime.

The differential BST would be computed based on the principle of "ability-to-pay" for each DisCom. Thus, BST payable by DisComs with low subsidizing consumers will be required to be lower BST than the average BST whereas BST payable by DisComs with larger subsidizing consumers will be paid higher than the average BST.

The application of differential BST would ensure that cross-subsidies in the pre-reform era which got adjusted in a state-wide manner would continue to be so adjusted post reforms, irrespective of DisCom boundaries.

It should be noted that while differential BST would provide for certain flexibilities to accommodate regional disparities, the computation principles would always remain static and under regulatory preview. Therefore, while the supply tariffs would vary from year to year – the formulae and principle would be based on "ability to pay".

Generation Tariff

The FRP assumes that the tariff charged by GSECL to GUVNL by its Power Purchase Agreement (PPA) would be equal to recover its full costs. Therefore, the PPA would not envisage any element of return on equity. The norms of operation would have to be appropriately structured to ensure that on meeting the efficiency targets laid out in the FRP, full costs to be covered by tariffs.

Transmission Tariff

Residual GEB (jointly with Discoms) has entered into a Transmission Agreement with GETCO and under this agreement would be paying transmission charges depending on the utilisation of transmission capacity. As with the generation tariff and the differential BST, the transmission tariff would be just adequate to cover costs with profits decided by the regulator.

However, the tariffs shall be determined by the GERC based on the revenue requirement of the various companies in the sector.

Support Requirement from the Stakeholders

The electricity sector post EA 2003 has four principal stakeholders namely,

(a) The Sectoral entities (DisComs, Residual GEB, GSECL, GETCO)
(b) The consumers as a whole
(c) Government of Gujarat
(d) Gujarat Electricity Regulatory Commission

The efforts already under implementation together with the improvement plan have already discussed in the preceding chapters to this report. It is to be noted that all support requirements from any other sources (GoG, GERC etc) have been arrived at after considering these planned efficiency improvement measures.

Government Of Gujarat

One of the outcomes from the FRP is an estimate of funds that required for the sector to make a turns-around, also otherwise known as transition financing. As explained above, the decision of GoG with respect to the treatment of long-term loans (which are directly linked to the accumulated losses of the sector as on the date of unbundling) will have a direct bearing impact on the transition financing.

It is worthwhile to note that, the existing tariff structure excepting agricultural category is fairly remunerative with respect to the average cost of supply by the DisComs in the future. This aspect has already been discussed in the "Assumption for developing FRP". FRP also assumes an ambitious, but nonetheless achievable, efficiency improvement path for all the sectoral entities.

In such a scenario, where all most all the boundary conditions have been adequately addressed, the support from GoG is perceived to play the most critical role during the support phase. The transition phase support requirement envisaged from GoG is summarised below:

a) GoG to takeover the liabilities of CPSU bonds aggregating to Rs. 1628 cr.

b) GoG to convert state government loans aggregating to Rs. 623 cr into equity
c) GoG to provide interest waiver on the state government loans aggregating Rs. 842 cr during the turnaround period.
d) GoG removes the cap of Rs. 1100 crore per annum and restores subsidy computation as per the formula for computation of Agriculture subsidy.
e) GoG/Profit making State Public Sector Undertakings to provide capital support of approximately Rs. 600 cr per year for capital expenditure.
f) GoG to provide capital grant of Rs. 250 cr per annum for system strengthening.

As explained in the assumption section, the Generation and Transmission entities have been ring fenced from all kind of revenue shortfall in the sector. Thus they operate at "no-profit-no-loss" basis for the entire projection period. The DisComs profitability is also being regulated through differential BST. Thus the shortfall in the sector is being concentrated at GUVNL. After the turnaround, the same arrangement would also allow the government to accumulate the surpluses generated by all the sectoral entities in GUVNL.

The support requirement and the associated major assumptions for each of the above cases are elaborated below:-

Support	Rationale
Takeover of CPSU bonds	As per the one time settlement scheme under which these bonds were issued, it was envisaged that the State Government would take over the liability and not be passed back to the State Electricity Board. As per the Montek Singh report "Should SEBs remain liable or should the dues be paid by State Governments? The Group felt that it was appropriate for the State Governments to take on the liability of the SEBs and to discharge it in future from general revenues" In most states, the State Government continues to service these bonds without any back-to-back loan arrangement.
Agriculture Subsidy	The GoG provides agriculture subsidy based on the formula which would provide adequate support to GEB from the lower agriculture tariffs. However, this support was capped at Rs. 1100 crore per annum under a tripartite agreement between ADB, GOG and GEB. This cap can no longer be relied upon since the gap between the realisation from agriculture tariffs has outstripped cost of supply by a huge margin.
Capital support and Capital grant for new projects in power sector	The FRP includes an assumption of support to the extent of approximately Rs. 600 crore per annum in the form of equity infusion and Rs, Rs. 250 crore capital grant

Support	Rationale
	per annum towards new projects and system strengthening in the power sector. For reforms to be successful, it is essential that GoG continue to fund the construction of new assets in all areas of the power sector.

Based on this, the financial projections for the base case work out as under:

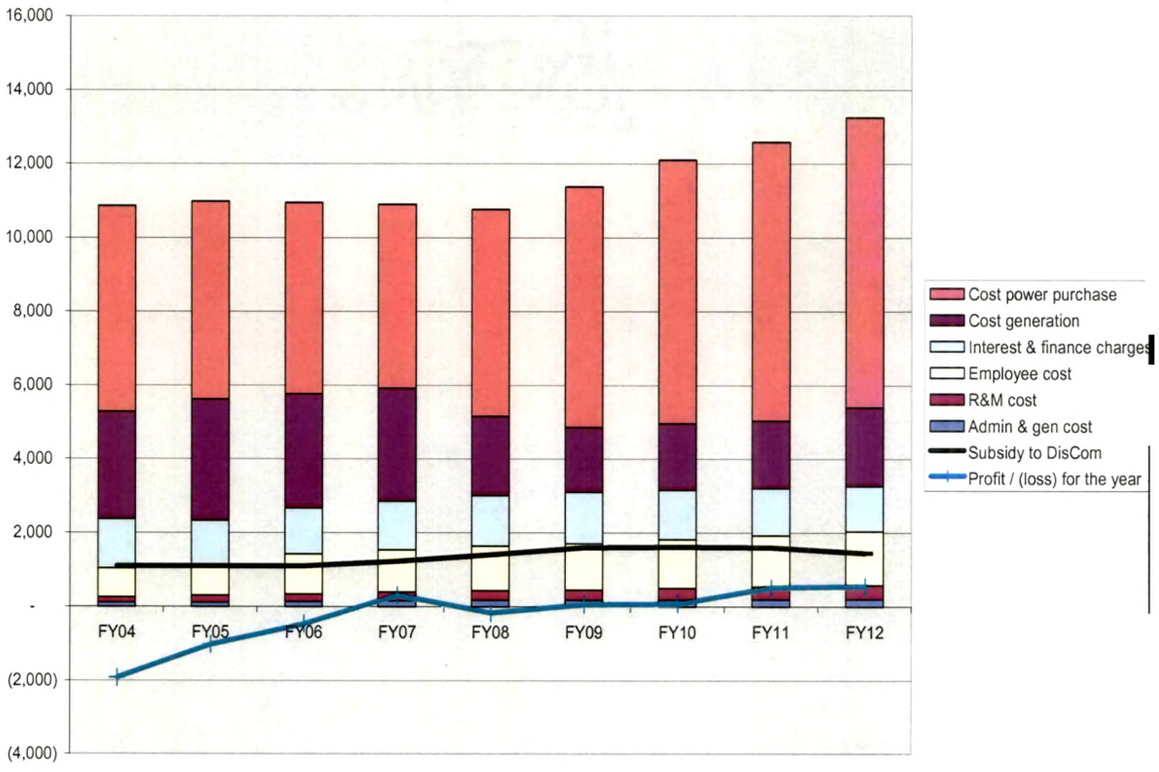
Table 5.19 Sectoral Support – from GoG

Sr No	Rs. Crores	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	TOTAL
1	Gross Revenue Receipts	11,315	12,037	11,498	12,466	13,395	14,468	75,179
2.1	Less: Electricity Duty	1,246	1,351	1,451	1,591	1,708	1,861	9,209
2.2	Less: GERC Tariff Compensation & Fuel Subsidy	499	425	417	409	470	462	2,682
3	Net Revenue Receipts (1-2-3)	9,569	10,261	9,630	10,466	11,216	12,145	63,288
4	Revenue Expenditure without Reforms	12,896	13,121	13,417	14,520	15,390	15,862	85,205
5	Less: Incremental Reforms generated savings	1,243	1,507	1,778	2,084	2,147	2,151	10,909
6	Revenue Expenditure with Reforms (4-5)	11,653	11,614	11,639	12,436	13,243	13,711	74,296
7	Revenue Gap (before Subsidies) (6-3)	2,084	1,353	2,009	1,970	2,027	1,566	11,008
7.1	Agriculture Subsidy from GoG	1,100	1,226	1,401	1,599	1,611	1,599	8,537
7.2	GERC Tariff Compensation & Fuel Subsidy	499	425	417	409	470	462	2,682
7.3	Net Revenue Gap [surplus/(Deficit)]	(484)	298	(191)	38	55	496	211
8	Capital Support	1,058	585	701	596	781	433	4,155
8.1	Capital Grants	250	250	250	250	250	250	1,500
8.2	Capital infusion for new projects	808	633	451	384	586	678	3,541
8.3	Less: Revenue Surplus	(484)	298	(191)	38	55	496	
9	Principal & Interest on loan taken over	266	429	421	402	384	364	2,266
10	Grants/Subsidies	2,657	2,237	2,518	2,604	2,863	2,494	15,373

Sr No	Rs. Crores	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	TOTAL
11	Total Outflow to GoG (9+10)	2,923	2,665	2,939	3,007	3,246	2,858	17,639
12	Inflows to GoG - Electricity Duty	1,246	1,351	1,451	1,591	1,708	1,861	9,209
13	Net Outflow/ (INFLOW) for GoG (11-12)	1,677	1,314	1,488	1,415	1,538	997	8,430

Revised after discussion and finalisation with Government of Gujarat

Figure 1 Sector Profitability and Expenses



Regulations for the Sector

The success of the reforms and the future-path envisaged in EA 2003 to a large extent is dependent on the State Regulators to a large extent apart from the licensees and State Government. Commencing from enhancing the quality of service to the consumers to development of competitive market with private participation, every field has to be adequately supported by well defined principles and regulations.

GEB has already initiated efforts in developing some of the concepts namely Fuel Price and Power Purchase Cost Adjustment Formula (FPPPA) and Parallel Operation Charges (POC), wheeling charges. These applications from erstwhile GEB are being reviewed by GERC.

The utility regulation has three main views namely:-

1. to protect the consumers from abuse by firms with substantial market power
2. to support investments by protecting investors from arbitrary actions by government; this includes ensuring timely support as promised at the time of tariff setting (subsidy from government)
3. to promote economic efficiency

Multi Year Tariff – Multi phases development

Establishment of independent quasi-judiciary Regulatory Commission has shifted the determination of electricity tariff from Government to a more transparent, scientific and consumer oriented regulatory environment. Apart from determination of tariffs for various transactions the GERC is also

mandated to develop a competitive market keeping in view the general public interest.

The principles defined in various Schedules of the Electricity (Supply) Act 1948 are no longer applicable for the licensees as the same was repealed by EA 2003. The new principles are yet to be notified by GoI. However, the tariff policy together with the determination principles play crucial role in the finances of the licensees.

The tariff methodologies that are being followed by GERC (for the last two tariff application) involves annual review of the cost and revenues. Though the principles and the applied tools are robust, licensees however will desire:-

1. A more quantitative description of tariff policy and standards of performance to avoid different interpretation
2. Predefined policy on mitigating risks that are beyond reasonable control of the licensees
3. More flexibility in managing the operations and investments

Notification of absolute tariff for consumers for a control period may be perceived as final goal in a "gradual MYT development scale". A robust multi year framework is required to be in place before determining the tariff for individual category of consumer. This essentially eradicates the uncertainty for any, under or over recovery by the licensee to a large extent.

Development of pre-defined standardized set of policies by GERC will help in creating a more stable and predictable environment. This definitely

reduces the business uncertainty and the financial risks falls and which in turn increase the flexibility of the licensee to plan its future business. Determination of multi year tariff for the consumers is an extension of the set of well defined long-term tariff principles. The development of an agreed and feasible long-term tariff principle involves setting of targets and philosophy for a period more than one year, also known as "control period". The performance of the licensees are reviewed at the end of the "control period" and any excess or shortfall in recovery is required to be taken to the next control period known as "truing-up" exercise.

Adoption of pre-defined long-term principles is a transitional arrangement before the sector gets itself ready for implementation of a MYT structure. The Regulator by going through such a transitional arrangement will be better equipped in foreseeing the future with more accuracy.

The extent of non-interfering long-term policies is a factor of the ground realities prevailing at the beginning of the control period. Thus the accuracy and the completeness of the financial, commercial and technical data determine the framework of the long-tariff principles.

FRP has already taken limited steps in developing an environment for introduction of Multi Year Tariff Principles. The efficiency improvement curves have been defined for each of the sectoral entities and it is assumed that all the entities shall abide by the defined path. Since, FRP is based on a financial model which assumes a number of assumptions; it can be taken as a "Initiation Point" for developing the MYT principles. After an initial control period (may be of 3 years) GERC can introduce MYT for a defined control

period (say 25 years). The initial control period (3 years) may be utilised as a "Stabilising period".

Erstwhile GEB / successor utilities as explained above are well equipped to provide all supporting information for development of MYT in the State of Gujarat. GERC may initiate the process of developing it a complete manner for betterment of the entire sector.

MYT Activities undertaken by erstwhile GEB

The erstwhile GEB during the last financial year has undertaken considerable steps towards developing an environment of Multi Year Tariff Principles. It has already filed a petition before GERC for approval of "Fuel and power purchase price adjustment (FPPPA) formula. While the Commission has given its order on the FPPPA, erstwhile GEB has some reservations and hence the same is under review of the Commission. Once approved, this formula will enable the licensee in recovering the legitimate deviations in power purchase and fuel cost from the consumers in the same financial year instead of the next financial year. Such kind of real-time expense-recovery deviation adjustments provide the critical tool to manage the business in a more prudent way due to the following broad reasons:-

1. Less risks of stranded cost
2. Minimal regulator's intervention for recovery of a cost which is external and beyond the reasonable control of the licensee
3. Better working capital management thereby freeing scarce resources for other constructive reasons
4. Avoidance of tariff shock to the consumers as a whole as the increases are gradual

This concept can be extended for developing a comprehensive Multi year tariff principles for selected cost and revenue items of the licensees. The development and implementation of such a transitionary long-term principle will definitely help in introducing and implementing a MYT in future.

Risk Assessment and impact analysis

The FRP for Gujarat Electricity Sector is being developed on the basis of certain realistic assumption after taking due care on the basis of understanding of the state specific issues and development in the Country. However, it is to be noted that in the case of any slippages in the assumptions which are beyond the reasonable control of the GEB or any of the licensee, the support requirement from GoG and the forecast achievement of the sector (in terms of turn around) will undergo significant changes.

Table: 5.20

Description	Probability and/ Impact on support requirement	Mitigation measures
Increase in captive generation / consumption	High probability High impact	▪ FRP considers minimal tariff increases for industrial consumers ▪ Quality of supply in terms of hours of supply and outages can be better monitored by the load survey information. ▪ Introduction of Captive generation duty by GoG
Decrease in industrial demand	Medium probability	▪ FRP considers minimal tariff increases for industrial consumers

Description	Probability and/ Impact on support requirement	Mitigation measures
	Medium impact	▪ Better supply quality is one of the reasons for consumers moving out. However a spin off from process improvement is the load survey that can be used to determine hours of supply and outages and plan for supply improvements.
Decrease in industrial demand due to Open Access	Low-Medium probability	▪ Time frame for implementation of open access is critical in determining the impact on support requirements and will be determined by the State Regulator. ▪ FRP considers minimal tariff increases for industrial consumers ▪ Cross subsidy charge is to be determined by State Regulator. The path for removal of cross subsidy is crucially linked to the cross subsidy charge. ▪ Better supply quality is one of the reasons for consumers moving out. However a spin off from process improvement is the load survey that can be used to determine hours of supply and outages and plan for supply improvements.
	Medium impact	
Lower T&D Loss Reduction	Low probability	▪ Investment under APDRP for reduction of technical losses

Description	Probability and/ Impact on support requirement	Mitigation measures
	High impact	▪ Process implementation for reduction of T&D losses ▪ Strict implementation of Anti-theft actions as prescribed in the Electricity Act, 2003
Increase in supply for agricultural consumption	Medium probability High impact	▪ Supply discipline to be maintained by the DisComs regarding the supply to the Agriculture categories. ▪ GoG could be made to subsidise the electricity sector for any increase in supply to agricultural sector due to any policy decision or, under any other circumstances beyond the control of the licensees.
Lower collection efficiency of energy billed during the financial year.	Low probability High impact	▪ GoG shall subsidise the electricity sector for any increase in supply to agricultural sector due to any policy decision or, under any other circumstances beyond the control of the licensees. ▪ Strict Implementation of the Anti Theft provisions. ▪ A one-time settlement for retail consumers improves Collection efficiency.
Retails tariff hikes for non-agricultural consumers at level lower than projected/ Delay in Tariff revision	Medium probability High impact	▪ Multi-year tariff framework expected to provide stability in tariff regime and reduce regulatory risk ▪ Implementation of a comprehensive Fuel and Other Charges Adjustment mechanism for automatic recovery of

Description	Probability and/ Impact on support requirement	Mitigation measures
		uncontrollable expenditures of the licensees. ▪ Timely and annual filing of ARR and tariff petitions by the sector entity. ▪ Practice of Complete delegation of independence to the sector entity by GoG and minimising its role to the tariff policy issues.
No Tariff Increase for Agricultural Categories	High probability Medium impact	▪ Financial viability of the distribution business is key to the success of the reform programme. ▪ Payment of 67% of the average COS by Agricultural consumers after subsidy allocation addresses the social obligation of the electricity business. ▪ The proposed MYT framework is expected to partially address this risk.
Support from GoG in FY06 towards writing –off of liabilities.	High Impact Low Probability	▪ The reform implementation in power sector requires a complete support from the government. The continuation of the past liabilities from the sector is an essential requirement. ▪ The Electricity Act 2003 u/s 65 envisages advance payment of subsidy (in a manner specified by the Regulators).
Delay in receiving subsidy/ Subsidy not received in full	Medium Impact	▪ This risk is proposed to be mitigated by making the residual GEB as the sole recipient of the

Description	Probability and/ Impact on support requirement	Mitigation measures
	Low Probability	subsidy through the differential BST mechanism. Therefore, only GUVNL would suffer the liquidity crunch in the event of delay in receipt of subsidy, thereby insulating the other sector entities from facing difficulties. ▪ The Electricity Act 2003 u/s 65 envisages advance payment of subsidy (in a manner specified by the Regulators). ▪ GoG continues to get Electricity Duty from the sector. Hence, from a cash flow perspective, there is only an incremental burden to be bridged ▪ Acceptance of GoI Expert Group recommendations by GoG restrict supply and subsidy requirements

Thus the FRP set the blue print for the sector turnaround which envisages all the players to play a positive role and ensure an efficient and effective implementation of the reform process.