

GUJARAT ELECTRICITY REGULATORY COMMISSION



**Annual Performance Review for FY 2009-10
&
Aggregate Revenue Requirement for FY 2010-11
For
Gujarat Energy Transmission Corporation Limited**

Case No. 990/2010

31st March 2010

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**GUJARAT ELECTRICITY REGULATORY COMMISSION
(GERC)**

AHMEDABAD

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&
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(GETCO)**

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ABBREVIATIONS

1	APR	Annual Performance Review
2	ARR	Aggregate Revenue Requirement
3	A&G	Administration and General
4	CAPEX	Capital Expenditure
5	CERC	Central Electricity Regulatory Commission
6	Ckt-Km	Circuit Kilometer
7	Control Period	FY 2008-09, FY 2009-10, FY 2010-11
8	DGVCL	Dakshin Gujarat Vij Company Limited
9	DD & DNH	Diu & Daman and Dadara Nagar Haveli
10	FY	Financial Year
11	GEB	Gujarat Electricity Board
12	GERC	Gujarat Electricity Regulatory Commission
13	GETCO	Gujarat Energy Transmission Corporation Limited
14	GoG	Government of Gujarat
15	GSECL	Gujarat State Electricity Corporation Limited
16	GUVNL	Gujarat Urja Vikas Nigam Limited
17	H1	First half of FY 2009-10 (April '09- September'09)
18	H2	Second half of FY 2009-10 (October'09- March'10)
19	KWh	Kilo Watt Hour
20	IPTC	Independent Power Transmission Company
21	kV	Kilo Volt
22	KVA	Kilo Volt Ampere
23	KVAh	Kilo Volt Ampere Hour
24	MGVCL	Madhya Gujarat Vij Company Limited
25	MU	Million Units
26	MW	Mega Watt
27	MYT	Multi Year Tariff
28	O&M	Operations & Maintenance
29	PGCIL	Power Grid Corporation of India Limited
30	PGVCL	Paschim Gujarat Vij Company Limited
31	SBI	State Bank of India
32	S/S	Sub-station
33	R E	Revised Estimates
34	ROE	Return on Equity
35	R&M	Repairs and Maintenance



36	SLDC	State Load Despatch Centre
37	T&C	GERC (Terms & Conditions of Tariff) Regulation, 2005
38	ULDC	Unified Load Despatch and Communication
39	UGVCL	Uttar Gujarat Vij Company Limited
40	UT	Union Territory
41	WREB	Western Region Electricity Board
42	WRPC	Western Region Power Committee





BEFORE THE GUJARAT ELECTRICITY REGULATORY COMMISSION AT AHMEDABAD

Case No. 990/ 2010

Date of the Order: 31st March 2010

CORAM

Dr. P. K. Mishra, Chairman

Shri Pravinbhai Patel, Member

ORDER

1. Background & brief history

1.1 Background

The Gujarat Energy Transmission Corporation Limited (hereinafter referred to as 'GETCO' or 'petitioner') has filed its petition under Section 62 of the Electricity Act, 2003 read with Gujarat Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2005 (hereinafter referred to as 'Terms & Conditions of Tariff') and Gujarat Electricity Regulatory Commission (Multi-Year-Tariff Framework) Regulations, 2007 (hereinafter referred to as 'MYT Regulations') on 21st December 2009 for annual performance review (APR) of FY 2009-10 and Aggregate Revenue Requirement (ARR) for FY 2010-11 for transmission business, under MYT Control Period FY 2008-09 to FY2010-11 (herein referred to as 'control period'). Subsequent to the submission, the Commission did a technical validation of the petition and admitted the petition on 4th January 2010.

1.2 Gujarat Electricity Transmission Corporation Limited (GETCO)

The Government of Gujarat unbundled and restructured the Gujarat Electricity Board with effect from 1st April 2005. The Generation, Transmission and Distribution



businesses of the erstwhile Gujarat Electricity Board were transferred to seven successor companies. The seven successor companies are listed below:

- i) Gujarat State Electricity Corporation Limited (GSECL) - A Generation Company
- ii) Gujarat Energy Transmission Corporation Limited (GETCO) - A Transmission Company

Four Distribution Companies:

- iii) Dakshin Gujarat Vij Company Limited (DGVCL)
- iv) Madhya Gujarat Vij Company Limited (MGVCL)
- v) Uttar Gujarat Vij Company Limited (UGVCL)
- vi) Paschim Gujarat Vij Company Limited (PGVCL); and
- vii) Gujarat Urja Vikas Nigam Limited (GUVNL) – A Holding Company and is also responsible for purchase of electricity from various sources and supply to Distribution Companies.

The Government of Gujarat vide notification dated 3rd October 2006 notified the final opening balance sheets of the transferee companies as on 1st April 2005, containing the value of assets and liabilities, which stand transferred from the erstwhile Gujarat Electricity Board to the transferee companies including Gujarat Energy Transmission Corporation Limited (GETCO). Assets and liabilities (gross block, loans and equity) as on the date mentioned in the notification have been considered by the Commission in line with the Financial Restructuring Plan (FRP) as approved by Government of Gujarat.

1.3 Commission's Order for the first control period

Gujarat Energy Transmission Corporation Limited filed its petition under the Multi Year Tariff framework for the FY 2008-09, FY 2009-10 and FY 2010-11 on 31st July 2008 in accordance with the Gujarat Electricity Regulatory Commission (Multi-Year-Tariff Framework) Regulations, 2007 notified by GERC. The Commission, in exercise of the powers vested in it under Sections 61 and 62 of the Electricity Act 2003 and all other powers enabling it in this behalf and after taking into consideration the submissions made by GETCO, the objections by various stakeholders, response of GETCO, issues raised during the public hearing and all other relevant material, issued the Multi Year Tariff order on 17th January 2009 for the control period comprising FY 2008-09, FY 2009-10 and FY 2010-11.

1.4 Commission's order on APR of the first year of the control period

The Petitioner filed its petition for Annual Performance Review (APR) of FY 2008-09 and the determination of Aggregate Revenue Requirement (ARR) for FY 2009-10 on



25th August 2009. Based on preliminary scrutiny and evaluation the Commission admitted the petition on 4th September 2009. The Commission in exercise of the powers vested in it under Sections 61 and 62 of the Electricity Act 2003 and other provisions enabling it in this behalf and after taking into consideration the submissions made by the Petitioner, the objections by various stakeholders, response of the Petitioner, issues raised during the public hearing and all other relevant material, issued the order on APR of FY 2008-09 and tariff determination for FY 2009-10 on 14th December 2009. Now, on receipt of audited data for FY 2008-09, in current petition, the revised ARR for the FY 2008-09, is placed as annexure 1.1.

1.5 Admission of the current petition and public hearing process

The Commission undertook a technical validation of the petition submitted by GETCO and admitted the current petition of GETCO for annual performance review (APR) of FY2009-10 and approval of Aggregate Revenue Requirement (ARR) for FY2010-11 for transmission business (Case No 990 of 2010) on 4th January 2010

In accordance with Section 64 of the Electricity Act 2003, the Commission directed GETCO to publish its application in the abridged form to ensure public participation.

The Public Notice was published in the following newspapers on 7th January 2010 inviting objections / suggestions from its stakeholders on the ARR petition filed by it.

1. Indian Express – in English
2. Divya Bhaskar – in Gujarati

The petitioner also placed the public notice and the petition on its website (www.getcogujarat.com) for inviting objections and suggestions on its petition.

The interested parties/stakeholders were asked to file their objections and suggestions on the petition on or before 8th February 2010.

GETCO/Commission received objections/suggestions from 4 respondents. Some of the objections / suggestions received after the last date but prior to the date of public hearing have also been considered by the Commission.

The Commission thereafter fixed the date of public hearing for GETCO to be conducted on 25th February 2010 and 26th February 2010 and sent communication to the objectors inviting them to take part in the public hearing process for presenting their views on the petition before the Commission. Subsequently during the course of the public hearing the Commission decided that an additional hearing on the petition be conducted on March 3, 2010.

The issues and concerns voiced by various stakeholders during the course of the public hearing as well as the written submission have been carefully examined by the Commission.



1.6 Contents of the Order

The order is arranged into **six** chapters as under:

1. The first chapter provides a background regarding the petitioner, petition and details of the public hearing process and the approach which has been adopted for this order.
2. The second chapter provides detailed account of the public hearing process, including the objections raised by various stakeholders, GETCO responses and the Commission's views on the responses
3. The third chapter outlines the performance of the GETCO system for FY 2009-10 and FY 2010-11.
4. The fourth chapter deals with the annual performance review for FY 2009-10
5. The fifth chapter deals with the aggregate revenue requirement for FY 2010-11.
6. The sixth chapter deals with the compliance of directives

1.7 Approach of this Order

In this order the Commission has analyzed the petition with regard to the annual performance review for FY 2009-10 and annual tariff review for FY 2010-11. Under the MYT Framework, the Commission has projected the ARR for the petitioner for each year of the control period in the MYT Order issued on 17th January, 2009. The Regulations provide for annual performance review based on the actual expenses incurred by the petitioner compared with the trajectories approved under the MYT Order.

The petitioner has now approached the Commission for annual performance review for FY 2009-10 and annual tariff review for FY 2010-11. Considering this background the Commission has undertaken an annual performance review for FY 2009-10 based on the actual information submitted for the first six months of the FY 2009-10 and the analysis of the projections submitted by the petitioner for the remaining six months of the FY 2009-10.

In regard to the annual tariff review for FY 2010-11, the Commission has analyzed the projections submitted by the Petitioner with reference to the trajectories approved in the MYT Order.

1.7.1 Approach for APR for the FY 2009-10

Regulation 9.1 of the MYT Regulations provides that where the aggregate revenue requirement of a generating company or a licensee is covered under a multi year tariff framework, such licensee shall be subject to an Annual Performance Review (APR) during the control period. With regard to the scope of the APR, Regulation 9.3 of the MYT Regulations provide that the scope of APR shall include a comparison of



the audited performance of the generating company or the licensee for previous financial year with the approved forecast of aggregate revenue requirement and expected revenue from tariff and charges for such previous financial year.

Accordingly, the Commission has now undertaken a review of the performance for the FY 2009-10 based on the submission of the petitioner. The petitioner has also submitted computation of gains and losses for the FY 2009-10. However, the Commission has not undertaken computation of gains/losses for the FY 2009-10. The computation of gains and losses for the FY 2009-10 shall be undertaken based on the audited accounts of the Petitioner.

1.7.2 Approach for ARR for the FY 2010-11

For FY 2010-11 which is the third year of the control period, the Petitioner has approached the Commission for revision of the Aggregate Revenue Requirement (ARR) and annual tariff review based on the APR of FY 2009-10 and the revised estimates for the FY 2010-11. The Commission has now reviewed the submission of the petitioner. The Commission has observed that revised estimates for various components of the ARR for FY 2010-11 are different compared to ARR approved under the MYT Order dated 17th January 2009.

The variance of some details in the submission is primarily on account of the variance in the actual performance for the FY 2008-09 and the first six months of FY 2009-10. In light of this background, the Commission has reviewed and revised the various components of ARR where considered fit. While considering the revision of the ARR the Commission has been primarily guided by the following principles:

1. Controllable parameters have been considered at the level approved under the MYT Order unless the Commission considers there are suitable reasons for revision of the same.
2. Uncontrollable parameters have been revised based on the actual performance observed for the FY 2008-09 and the first six months of the FY 2009-10.



2. Response from Stakeholders

2.1. Background

In response to the public notice inviting objections / suggestions from stakeholders on the petition filed by GETCO for annual performance review (APR) of FY 2009-10 and annual revenue requirement (ARR) for FY 2010-11 for transmission business, under MYT Control Period FY 2008-09 to FY2010-11, four consumers / consumer organizations have filed their objections / suggestions in writing. Out of the four objectors those who filed objections / suggestions three stakeholders have participated in the public hearings. Details of the consumers / consumer organizations who have submitted their objection is provided in Table 1:

Table 1: List of Objectors

Sr. No.	Name	Participated in Public Hearing
1	Sh. Hasmukh Shah, Ex-chairman IEEE Power & Energy Society of India	Yes
2	Sh. Vipulbhai H. Raiyani	
3	Suzlon Power Infrastructure Private Limited (SPIPL)	
4	Gondal Chambers of Commerce and Industries	No

The Commission considered the objections / suggestions and has observed that several objections are similar in nature. Therefore for the purpose of this order the Commission has clubbed similar issues. Based on this approach, the issues presented before the Commission, response of GETCO and the views of the Commission are presented below:

2.2. Installation of sub-station

Objections:

A stakeholder has submitted that the Petitioner has overestimated the number of sub-stations which would be installed by the end of FY 2009-10. The objector has further stated that as against the total estimation of 61 sub-stations to be installed by the end of FY 2009-10, the Petitioner had actually installed only one sub-station by the end of the first half of FY 2009-10.

GETCO's Response:

The Petitioner has submitted that by the 9th of February 2010, the number of sub-stations which have been added in all is 18. Further, the Petitioner has stated that works are currently underway such that total target of 61 sub-stations to be added by the end of FY 2009-10 would be met with. Also, during the hearing, the Petitioner clarified that the works relating to installation of remaining sub-stations planned for the year are nearing to completion. Further, the Petitioner has assured the



Commission that the sub-stationss which have been planned for the year would be implemented by the end of FY 2009-10.

Commission's view:

The Commission has taken note of the submission made by the Petitioner on the updated number of sub-stationss installed.

2.3. Network addition

Objections:

A stakeholder has submitted that the Petitioner has not indicated the extent of work in progress with respect to the network addition being made. The objector has stated that the Petitioner envisages a total addition of 3110 Ckt-Km line by the end of FY 2009-10. However, as against this, the actual network addition which has been made at the end of first half of FY 2009-10 is 404.3 Ckt- Km. The objector has stated that the total network addition stated by the Petitioner for FY 2009-10 is misleading.

GETCO's Response:

The Petitioner has submitted that by the 9th of February 2010, the actual network addition which has been made is 1211 Ckt-Km. Further, the Petitioner has stated that works are currently underway such that the target of 3110 Ckt-Km line to be added by the end of FY 2009-10 would be achieved.

Commission's view:

The Commission has taken note of the submission made by the Petitioner on the updated estimates of network addition made to the system. The Commission has further taken note of the assurance by the Petitioner, during the course of public hearing, that the works relating to network additions planned for the year are nearing to completion and the target is achievable.

2.4. Inclusion of GUVNL costs

Objections:

A stakeholder has stated that the costs of the holding Company (GUVNL) is being loaded on the total cost estimates of all the Companies of erstwhile GEB including GETCO.

GETCO's Response:

The Petitioner has submitted that the costs relating to GUVNL are not being loaded on to GETCO.

Commission's view:

The Commission has taken note of the submission made by the Petitioner.



2.5. Capital expenditure

Objections:

A stakeholder has objected to the proposed capital expenditure levels for FY 2009-10. The objector has stated that there is lack of clarity on information regarding the level of capital expenditure already incurred and the likely levels for the remaining part of FY 2009-10. The objector has stated that the capital expenditure for FY 2009-10 as proposed by the Petitioner appears to be on the higher side, and for all practical reasons, is unlikely to be incurred within the remaining period of FY 2009-10. The stakeholder has further stated that over the years, viz. from FY 2007-08, the capital expenditure proposed to be incurred in a given year has seen significant increase year-on-year. The objector further states that the increased capital expenditure proposed by the Petitioner results in substantial increase in the debt to be raised which would eventually impact the tariff levels.

The stakeholder has also stated that details on cost benefit analysis undertaken for each of the projects planned should be submitted along with the capital expenditure projection made by the Petitioner.

GETCO's Response:

The Petitioner has submitted that at the end of the first half of FY 2009-10, capital expenditure worth Rs 626.96 crores had been incurred and the remaining amount of projected capital expenditure would be undertaken by the end of FY 2009-10. The Petitioner has further submitted that the details of the capital expenditure being planned have been elaborated in the petition for APR of FY 2009-10 and ARR of FY 2010-11. The Petitioner has further clarified that the capital expenditure planned by the Petitioner is in line with demand from the DISCOMs for 66 kV sub-stations.

Commission's view:

The Commission has taken note of the submission made by the Petitioner. The Commission is of the view that, in view of the rising demand, new generation projects are to be planned and necessary capital expenditure to evacuate the generation would have to be incurred. Commission is of the view that considering the increase in the generation capacity the Petitioner would be required to make suitable investment in strengthening its transmission network.

The Commission further directs the Petitioner that the costs of the major schemes should be shared with Commission at the time of its next ARR submission along with the respective Cost Benefit Analysis of the schemes.

2.6. Funding of capital expenditure

Objections:

A stakeholder has objected that quantum of equity proposed by the Petitioner to fund the capital expenditure planned for FY 2009-10 is lower than the MYT approved



levels. The objector has further stated that the Petitioner has not clarified the reason for the lower than approved level of equity. Also, for a clearer understanding on how the level of equity projected has been arrived at for FY 2009-10, the objector has asked of the Petitioner to state the methodology followed and the values of opening and closing equity assumed. The objector has also stated that the Petitioner for raising funds for the capital expenditure is raising the same directly from the capital market and the interest and finance charges on the same are being passed on to the tariff.

GETCO's Response:

In response to the objection raised, the Petitioner has clarified that the equity level for FY 2009-10 has been arrived at considering the normative funding of 70:30 debt equity level. Further, the Petitioner has clarified that the lower than MYT approved level of equity funding proposed for FY 2009-10 is based on the fact that the quantum of capital expenditure which has been proposed for FY 2009-10 is lower than the MYT approved level. The Petitioner has also stated that the interest charges are being computed on the debt component and not on the equity component and therefore, there are no interest charges which are being additionally passed on to the tariff.

Commission's view:

The Commission has taken note of the submission made by the Petitioner. The Commission is of the view that the consideration of debt and equity mix should be done as per the applicable regulations.

2.7. Transmission Loss

Objections:

One of the stakeholders has raised objection to the level of transmission loss being projected by the Petitioner. The objector has stated that for FY 2008-09, the loss level projected by the Petitioner was at 4.30%, against the MYT approved loss level of 4.09%. The objector has further stated that the reasons stated by the Petitioner for the higher loss levels do not appear convincing, and that the same should not be considered acceptable by the Commission. The objector has also stated that since the last order permitted the loss level projected by the Petitioner, the same has been further raised to 5% for FY 2009-10 and at 4.95% for FY 2010-11. The objector has stated that such an increase in the loss level projected is not in line with the Act/Regulations and the same should not be permitted.

GETCO's Response

In response to the objection raised, the Petitioner has stated that the reasons for the increase in the transmission loss levels at higher than approved levels have been explained in the petition.



Commission's view

The Commission has reviewed the technical study which has been shared by the Petitioner regarding the transmission loss estimation and projection. The Commission has, on the basis of review of the same and the historical trends, directed the Petitioner to revise the transmission loss level. The revised transmission loss levels approved by the Commission have been included in the APR for FY 2009-10 and in the ARR for FY 2010-11.

2.8. Aggregate Revenue Requirement

Objections:

A stakeholder has raised objection to the Aggregate Revenue Requirement (ARR) estimated by the Petitioner for FY 2010-11. The objector has stated that the ARR estimated by the Petitioner is significantly different from the earlier approved estimates. The objector has further stated that the Petitioner has claimed significantly high amounts towards operation and maintenance costs, depreciation and interest and finance charges. The objector has stated that expenditure towards employee costs needs to factor in the impact of Sixth Pay Commission in accordance with applicable rules. Also, the objector has stated that systematic monitoring would help to reduce the O&M costs.

GETCO's Response:

In response to the objection raised, the Petitioner has clarified that the ARR has been as per the Terms and Conditions of Tariff Regulations, 2005.

Commission's view:

The Commission has taken note of the submission made by the Petitioner. The Commission is of the view that the ARR of the Petitioner is not approved as per the submission made by the Petitioner. The submission is analyzed by the Commission in the backdrop of the applicable regulations. Also the submission made for the respective components of ARR is verified from respective documentary sources and only after a thorough prudence check does the Commission approve the ARR of a particular year for the Petitioner.

2.9. Parallel Operation Charge

Objections:

A stakeholder has raised objection to the non-inclusion of revenue from parallel operation charge.

GETCO's Response:

The Petitioner has stated that projection of revenue from the parallel operation charges is a difficult task and therefore the same have been excluded from consideration of ARR for FY 2010-11.



Commission's view

The Commission directs the Petitioner to share information on income earned by way of recovery from the parallel operation charge levied. The Commission directs the Petitioner to share this information for all the future petitions that would be filed.

2.10. Cross Subsidization for infrastructure development

Objections:

A stakeholder has asked for clarification whether the cost for development of infrastructure for evacuation and generation is being cross subsidized by existing users through the existing tariff. The objector has further stated that the Petitioner has indicated that the infrastructure cost of development of GETCO grid would be recovered through the ARR. This would also include the infrastructure cost associated with the development of the wind farm capacity. Such a practice as per the objector is not permissible. The objector has also, stated that in an earlier reference, the Petitioner has stated that the cost of development of wind farm capacity is being cross subsidized by other users of the system. The objector has stated that no cross subsidization is permissible under the Electricity Act, 2003. The objector has emphasized that development of infrastructure for evacuation of wind generation at the cost of other system users should not be permitted and any associated capital expenditure proposed by the Petitioner should be disallowed.

GETCO's Response:

The Petitioner has clarified that the issue of infrastructure development for evacuation of wind generation at the cost of other system users has been addressed in the Order no.1 of 2010 issued by the Commission on wind tariff determination.

Commission's view

The Commission has taken note of the Petitioner's response. The Commission is of the view that the issue raised by the objector has already been addressed in the Order no.1 of 2010 which has been issued for the determination of wind tariff.

2.11. Intra-State ABT

Objections:

One of the stakeholders has stated that the Petitioner has not shared details on the implementation of intra-state availability based tariff and has also not provided information on the usage of the Data Acquisition System installed.

GETCO's Response:

The Petitioner has clarified that the Data Acquisition System installed is being fully utilized. With respect to the implementation of the intra-stated ABT, the Petitioner has stated that Order in this regard is awaited from the Commission.



Commission's view

The Commission has noted the clarification provided by the Petitioner. Regarding implementation of the intra-state ABT, the Commission has examined the outcome of a mock exercise which has been conducted in this regard. The Commission has asked the Petitioner and some other members of the state grid to resolve some of the issues relating to commercial implementations of the intra-state ABT. On the basis of feedback gathered from the Petitioner, the Commission would take the required decision relating to implementation of the intra-state ABT.

2.12. Infrastructure development for evacuation of wind energy

Objections:

One of the stakeholders has stated that the Petitioner has not taken any steps towards development of infrastructure required for evacuation of 900 MW of wind power. The objector has stated that the capital expenditure plan for FY 2010-11 submitted by the Petitioner has not considered setting up of requisite infrastructure for evacuation of 900 MW of potential wind energy. The objector has stated that the evacuation plan was prepared by GETCO in the year 2007 for the proposed 900 MW wind power projects. These projects were expected to be commissioned over the years 2011 and 2012.

The objector has stated that the Commission had directed GETCO to undertake a study for ensuring evacuation of 900 MW. This study was to be included as part of the overall transmission plan including long term wind evacuation plan. GETCO was also directed by the Commission to include this study in its long term wind energy evacuation plan. GETCO was further directed to ensure that the evacuation from the proposed site at Kutch should be to an appropriate load centre. Subsequent studies undertaken by the objector had indicated that 900 MW wind generation was proposed at the locations of a) Jakhau/Jamanwala, b) Layaja/Bada, c) Nakhatrana. The stakeholder has stated that since GETCO had no sub-stations in these regions to evacuate power at 220 kV or 400 kV, GETCO was required to develop a 400 kV sub-station near village Hamala in Kutch along with associated 400 kV lines/Bays. The stakeholder has stated that as per discussion with GETCO, once approved, this project was to be included in the petition filed for FY 2009-10 and FY 2010-11. However, the objector has stated that these projects have not been included by GETCO under its capital expenditure plans for FY 2009-10 and 2010-11. The objector has stated that it has a long pending wind power evacuation application with GETCO and since GETCO is the State Transmission Utility, it should be required to undertake the required planning, technical studies and related arrangements to ensure evacuation of the 900 MW.

The objector has further stated that as per the capital expenditure plan under FY 2010-11 proposed in the MYT petition, GETCO plans to develop 220 kV sub-station



near the village Mokha and 200 kV D/C lines for evacuation of power from Kutch region to Banaskantha region. Also the objector has stated that the Petitioner has planned for 200 kV D/C Nakhtana-Varsana line along with 400 kV network for evacuation of Adani power generation in Kutch. The objector has stated that its application of 900 MW would entail establishment of 400 kV networks, which would require substantial time. The objector has proposed wind power evacuation as under:

- I. 300 MW at 200 kV Nakhtarana sub-station
- II. 200 MW at 200 kV proposed Mokha sub-station
- III. 51 MW additional permission at Suthri-NaniKhakhar sub-station
- IV. 51 MW additional permission at Sindhodi-NaniKhakhar sub-station

GETCO's Response:

The Petitioner has clarified that it is currently working on the application of the objector for evacuation of 900 MW. Further, the Petitioner has stated that after undertaking the required system/technical study, it would prepare a technically and operationally feasible proposal.

Commission's View:

The Commission directs the Petitioner to ensure timely planning and execution of schemes for evacuation of power from proposed wind farms. The Petitioner should also ensure timely communication and sharing of information with the stakeholder in all matters concerning this issue.

2.13. Transmission Plan

Objections:

A stakeholder has stated that as per the draft Regulation of the Commission on Renewable Power Purchase Obligation (RPPO), the distribution companies are directed to procure 6-10% of their energy from renewable sources. The objector has stated that given this regulation, the Petitioner should be directed by the Commission to prepare a Transmission Plan which identifies capacity augmentation requirements on account of procurement of energy from renewable sources.

GETCO's Response:

The Petitioner has clarified that the capital expenditure being incurred currently for the new sub-stations and transmission lines have been already approved in the MYT petition. Further the Petitioner has stated that its current MYT review proposal has already considered several sub-stations and transmission lines which are specifically meant to accommodate renewable energy in Saurashtra, Kutch and Banaskantha region.



Commission's View:

The Commission is of the view that preparation of transmission plan is a continuous exercise. However, the Commission directs the Petitioner to ensure that as per the grid code, GETCO should undertake all the requisite planning and ensure that it is in line with the Commission's regulation on the same.

2.14. Levying of supervisory charges

Objections:

A stakeholder has stated that the Petitioner is currently levying a supervisory charge of 7.5% on the total costs of transmission infrastructure being created by the wind farm developers. The objector has further stated that the primary responsibility of development of evacuation infrastructure rests with GETCO. However, as per the objector, in several instances, wind energy generators are compelled to construct 220 kV infrastructure to ensure timely and reliable connectivity with the grid. The objector has stated that Petitioner further levies exorbitant supervisory charges also on the capital costs of the equipment. The Objector has stated that these charges need to be rationalized and that they should be levied only on the labour component of the transmission projects.

GETCO's Response:

The Petitioner has stated that the supervisory charges currently levied are not to be regarded as exorbitant since the earlier rate was at 15% which was rationalized and reduced to 7.5%. The Petitioner has requested that the Commission should not further rationalize these charges.

Commission's View:

The Commission has taken note of the objection raised and the Petitioner's response to the same. The Commission is of the view that the current supervisory charges had been rationalized earlier and is applicable on labour and material cost. The Commission further directs the Petitioner to submit details of the actual costs of supervision which are levied and the recoveries made against the same. The Commission is of the opinion that on the basis of its analysis of costs and recoveries on this charge, further scope for rationalization of charges would be assessed.

2.15. Need for increase in number of EHV sub-stations in the PGVCL area

Objection

One of the stakeholders has stated that, one of the reasons for the high losses in the PGVCL area is on account of less EHV sub-stations which have been installed in this region. The objector has stated that one of the ways to reduce the high loss levels in the PGVCL area is by way of installing more EHV sub-stations in the region such that the 11kV feeders can be bifurcated and the losses can be reduced.



GETCO's Response:

The Petitioner has stated that while planning for EHV sub-stations in Gujarat, it assesses the load requirement for all the four DISCOMs and also analyses the resources/manpower available with them to undertake the required activity. The Petitioner has further clarified that over the last two years, the maximum numbers of sub-stationss have been commissioned in the PGVCL area.

Commission's View:

The Commission is of the view that in order to ensure loss reduction, GETCO needs to take up the activity of installation of sub-stations on a priority basis. Further, the Commission is of the view that in case the Petitioner is faced with the issue of shortage of human resources, the same can be addressed by way of outsourcing the activity of installation of the sub-stations.



3. Transmission system of GETCO and its performance

3.1. Introduction

The Petitioner has submitted information on the performance of the transmission system for FY 2009-10 and FY 2010-11. In this regard, the Petitioner has submitted information on transmission capacity, loading of the transmission system, availability of the transmission system and transmission loss levels. These performance parameters have been discussed in the following sections.

3.2. Transmission system capacity during FY 2009-10

Petitioner's Submission

The Petitioner has submitted that the transmission system capacity of its network at the end of September 2009 was 48,402 MVA. The Petitioner has submitted that it operates EHV Transmission system comprising 66kV to 400 kV network.

The Petitioner has submitted that upto the first half of FY 2009-10, i.e. by the end of September 2009, the capacity of the 66 kV voltage network was augmented by 265 MVA. The Petitioner has further stated that by the end of FY 2009-10, the total capacity augmentation for this voltage network would be by 752 MVA. The circle wise physical augmentation undertaken by the Petitioner for the first half of FY 2009-10 and the total proposed augmentation for FY 2009-10 is summarized in Table 2:

Table 2: Physical augmentation of GETCO system at 66 kV level for FY 2009-10

Name of Circle	H1 Actual FY 2009-10 (MVA)	Augmentation proposed for FY 2009-10 (MVA)
Navsari	25	50
Bharuch	0	35
Jambuva	25	62
Nadiad	45	50
Mehsana	20	30
Palanpur	35	110
Anjar	45	80
Amreli	45	105
Gondal	10	100
Junagadh	5	65
Surendranagar	10	65
Chorania	0	0
Asoj	0	0
Total	265	752

Based on the above additions made to the transmission capacity, the voltage-wise capacity levels submitted by the Petitioner are summarized in Table 3.



Table 3 : Voltage-wise capacity of GETCO system for FY 2009-10 as on 30th September'09

Name of Circle	Voltage class (Capacity in MVA)				
	400 kV (MVA)	220 kV (MVA)	132 kV (MVA)	66 kV (MVA)	TOTAL (MVA)
Navsari	0	2650	295	2022	4967
Bharuch	0	1050	350	872	2272
Jambuva	1630	1650	1625	1769	6674
Nadiad	0	1150	740	1761	3651
Mehsana	1630	2000	250	1809	5689
Palanpur	945	1800	410	2645	5800
Anjar	0	1150	380	1260	2790
Amreli	630	1700	288	1782	4400
Gondal	1575	1600	1078	2018	6270
Junagadh	0	900	310	1473	2683
Surrendranagar	1000	950	213	1045	3208
Total	7410	16,600	5937	18,454	48,402

The Petitioner has submitted that by the end of FY 2009-10, network addition of 3,110 Ckt-km is proposed to be made to GETCO's transmission network. The Petitioner has further stated that, out of the total network addition proposed for FY 2009-10, addition of 404.3 Ckt-Km has been achieved by the end of FY 2009-10. Subsequently, during the hearing conducted on the 25th of February, the Petitioner has shared information on the up-to-date network addition made to the GETCO system. As per the information shared, as on 9th February 2010, GETCO system has been augmented by 1211 Ckt-Km. The details of the network additions which have been made by the Petitioner are summarized in Table 4.

Table 4 : Addition made to the transmission lines of GETCO system during first half of FY 2009-10

Voltage Class	H1 Actual FY 2009-10 (Ckt-Km)	Total addition planned during FY 2009-10 (Ckt-Km)
400 kV	0	894
220 kV	137.34	1,463
132 kV	50.19	53
66 kV	216.77	700
33 kV	0	0
Total	404.3	3,110

The Petitioner has submitted that during FY 2009-10, sixty one (61) sub-stations have been envisaged to be added to the system. The Petitioner has submitted that by the end of 30th September 2009, one sub-station had been added to the system. The Petitioner has further clarified during the hearing on the 25th of February that as on 9th February 2010, the total number of sub-stations which have been added to the



GETCO system are 18. The voltage-wise details of the sub-stations added during the first half of FY 2009-10 are given in Table 5.

Table 5: Total sub-stations added by GETCO during first half of FY 2009-10

Voltage Class	H1 Actual FY 2009-10	Total addition planned during FY 2009-10
400 kV	0	0
220 kV	0	3
132 kV	0	0
66 kV	1	58
33 kV	0	0
Total	1	61

Commission's Analysis:

The Commission has reviewed the submissions made by the Petitioner. The Commission has observed that as per the MYT order, the total capacity envisaged for the 66 kV category at the end of FY 2009-10 was 18132 MVA. The Commission has further noted that at the end of H1 of FY 2009-10, the Petitioner has reached a total capacity of 18,454 MVA for the 66 kV category at the end of H1 of FY 2009-10 which is higher than that which was envisaged in the MYT order.

The Commission has observed that GETCO has envisaged addition of 61 sub-stations by the end of FY 2009-10. This addition in the number of sub-stations is higher than that which was envisaged in the MYT order. The Commission has also noted the submission made by the Petitioner that 18 sub-stations have already been added as on February 9th 2010.

With regard to the network addition, the Commission has observed that as against the addition of 2,857 Ckt-Km envisaged to be added to the GETCO system as per the MYT order, the actual addition made at the end of H1 of FY 2009-10 was 404.3 Ckt- Km. Further, the Commission has noted that as per the submission made by the Petitioner 1,211 Ckt-Km have been added to the GETCO system as on February 9th 2010.

Based on the submissions of the Petitioner, the Commission now takes note of the capacity addition made by the Petitioner during the first half for FY 2009-10 and the projected addition for FY 2009-10.

3.3. Loading of the transmission system

Petitioner's submission

The Petitioner has stated that during the period from April 2009 to September 2009, the total loading on the system was 11,110 MW from various state, central and



private generating stations. The total loading of the system at the end of first half of FY 2009-10 is summarized in Table 6.

Table 6: Loading of GETCO's transmission system during H1 of FY 2009-10

(in MW)

Sr. No	Station	Rated Capacity MW	Aux Cons (%)	Gujarat Share	Transmission Losses (%)	Total MW on GETCO System
A	GSECL Plants					
1	Ukai TPS	850	9.00	850	0	774
2	Ukai HPS	305	0.56	305	0	303
3	Gandhinagar TPS Unit 1 to 4	660	11.12	660	0	587
4	Gandhinagar TPS Unit – 5	210	8.50	210	0	192
5	Wanakbori TPS Unit 1 to 6	1260	9.00	1260	0	1147
6	Wanakbori TPS Unit – 7	210	8.50	210	0	192
7	Sikka TPS	240	10.70	240	0	214
8	Kutch Lignite TPS	215	12.25	215	0	189
9	Dhuvaran TPS – Old	220	11.50	220	0	195
10	Kadana Hydro	242	1.11	242	0	239
11	Utran Gas Based	135	4.94	135	0	128
12	Dhuvaran Gas Based - Stage-I	107	4.80	107	0	102
13	Dhuvaran Gas Based - Stage-II	113	4.00	113	0	108
	Total GSECL Plants			4,767		4,370
B	IPPs					
1	GIPCL Stage-I	145	2.90	145	0	141
2	ESSAR	515	2.80	300	0	292
3	GPEC	655	2.90	655	0	636
4	GIPCL Stage-II	165	2.90	165	0	160
5	GIPCL-SLPP	250	10.00	250	0	225
6	GSEG	156	2.90	156	0	151
7	GMDC – Akrimota	250	10.00	250	0	225
	Total IPPs Plant			1,921		1,830
C	Share from Central Sector					
1	NPC - Tarapur 1and 2	320	10.00	160	5	137
2	NPC - Kakrapar	440	12.50	130	5	108
3	NPC - Tarapur 3and4	1080	10.00	290	5	248
4	NTPC – Korba	2100	7.93	385	5	337



Sr No	Station	Rated Capacity MW	Aux Cons (%)	Gujarat Share	Transmission Losses (%)	Total MW on GETCO System
5	NTPC - Vindhyachal-I	1260	9.00	248	5	214
6	NTPC - Vindhyachal-II	1000	7.50	254	5	223
7	NTPC - Vindhyachal-III	1000	7.50	281	5	247
8	NTPC – Kawas	656	3.00	192	5	177
9	NTPC – Jhanor	657	3.00	242	5	223
10	NTPC – Kahalgaon	1000	7.50	94	8	80
11	NTPC - Sipat – II	1000	7.50	288	5	273
12	SSNNL – Hydro	1450	0.50	232	5	219
	Total Central Sector Share			2,794		2,485
	TOTAL			9,482		8685
	CPP Wheeling					840
	Wind Farm Capacity					1585
	Total for H1 of FY 2009-10 (MW)			9,337		11,110

The Petitioner has submitted that during the second half of FY 2009-10 i.e from October 2009 to March 2010, an additional load of 1,354 MW is expected from the various state, central and private generating sources. The details of the additional load envisaged on the system is summarised in Table 7 below:

Table 7: Additional load envisaged for the GETCO's transmission system for H2 of FY 2009-10

(in MW)

Sr. No.	Station	Rated Capacity	Aux Cons (%)	Gujarat Share	Transmission Losses (%)	Total MW on GETCO System
A	GSECL Plants					
1	Lignite Base Extension Unit No. 4 at Panandro, District Kutch	75	12.25	75	0	66
2	Gas based CCPP at Uttran, District Surat	374.6	4.9	374.6		356
	Total GSECL Plants			450		422
B	IPPs					
1	GIPCL Expansion	250	9.5	250		226
	Total IPPs Plant			250		226
C	Share from Central Sector					
1	NTPC – Kahalgaon	500	7.5	47	8	40
2	NTPC - Sipat - II	1,980	7.5	360	5	316



Sr. No.	Station	Rated Capacity	Aux Cons (%)	Gujarat Share	Transmission Losses (%)	Total MW on GETCO System
	Total Central Sector Share			407		356
	TOTAL			1,107		1,004
	CPP Wheeling					0
	Wind Farm Capacity					350
	Total for FY 2009-10 - Oct 09 to Mar 10 (MW)			1,107		1,354

The Petitioner has stated that at the end of FY 2009-10, the total loading of the system is envisaged to be 12,464 MW.

Commission's Analysis

The Commission has noted that during H1 of FY 2009-10, the total load handled by the GETCO system was 11,110 MW. Further the Commission has noted that by the end of FY 2009-10, additional load of 1,354 MW would be handled by the GETCO system. The Commission has noted that by the end of FY 2009-10, the Petitioner envisages a total load of 12,464 MW on the GETCO system. The Commission has observed that as per the MYT order, the total loading for the system for FY 2009-10 was projected to be 13,704 MW. The Commission has taken note that in all, the total load proposed to be handled by the GETCO system at the end of FY 2009-10 is lower than the load level envisaged to be handled as per the MYT order.

Based on the above observation, the Commission takes note of the estimated loading of the system at 12,464 MW by the end of FY 2009-10 by GETCO which is summarized in Table 8.

Table 8: Total loading of GETCO system by the end of FY 2009-10 considered by the Commission

(in MW)

Sr. No.	Stations	H1 Actual FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
A	GSECL Plants	4,370	4,792
B	IPPs	1,830	2,056
C	Share from Central Sector	2,485	2,841
D	CPP Wheeling	840	840
E	Wind Farm Capacity	1,585	1,935
F	Total Loading in MW	11,110	12,464



3.4. Availability of the transmission system in FY 2009-10

Petitioner's submission

The Petitioner has submitted that during FY 2009-10, the availability of the transmission system has been 99.59% during H1 of FY 2009-10. The Petitioner has stated that for the entire period of FY 2009-10, the availability of the system would be at 99.61%. The details of the voltage-wise availability of the transmission system submitted by the Petitioner for FY 2009-10 are summarized in Table 9.

Table 9 : Transmission system availability estimated by GETCO for FY 2009-10

(%)

Sr. No.	Description	Approved as per order MYT Order dated 17-01-2009	H1 Actual FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
1	400 kV	99.39	99.41	99.50
2	220 kV	98.94	98.97	99.00
3	132 kV	98.94	99.42	99.45
4	66 kV	99.66	99.69	99.70
5	Sub-stations	99.89	99.77	99.82
	GETCO System Availability	99.36	99.59	99.61

Commission's Analysis:

The Commission has examined the submission of the Petitioner for the availability of the transmission system during FY 2009-10. The Commission has further reviewed the historical trend in the availability of the transmission system since FY 2001-02. The historical trends in the availability of the transmission system are summarized in Table 10

Table 10 : Actual transmission system availability for last 7 years

(%)

Sr. No.	Description	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
1	400 kV	98.99	98.70	99.04	99.10	99.05	99.35	99.75
2	220 kV	98.46	97.89	98.73	98.90	98.86	98.72	99.17
3	132 kV	98.83	98.56	98.98	99.24	98.79	98.85	99.32



4	66 kV	99.18	98.98	99.51	99.67	99.57	99.56	99.56
5	Sub-stations	99.61	99.21	99.84	99.84	99.67	99.81	99.81
	GETCO System Availability	99.01	98.67	99.22	99.35	99.195	99.26	99.61

The Commission has observed that since FY 2001-02, the availability of the transmission system has remained above 98.5%. The Commission has taken note of the transmission availability level estimated by the Petitioner for FY 2009-10 as indicated in Table 11

Table 11: Transmission system availability approved for FY 2009-10

(%)

Sr. No.	Description	Approved as per order dated 14-12-2009	Revised Approved for FY 2009-10
1	GETCO System Availability	99.61	99.61

3.5. Energy Balance

Petitioner's submission

The Petitioner has submitted the details of the energy transaction which has been undertaken through the GETCO's system during the first half of FY 2009-10. The details of the energy which has been received by the GETCO system are summarized in Table 12.

Table 12 : Energy received by the GETCO system for first half of FY 2009-10

Generating Plants	MUs Received
GEB – GESCL	12,290
IPP	7511
CPP	543
Central Sector Projects	7,944
Non Conventional Energy Sources	1,757
Total Energy Received	30,045

The Petitioner has also submitted the details of the energy sent out during FY 2009-10 from the GETCO system which is summarized in Table 13.

Table 13 : Energy sent out from GETCO system during the first half of FY 2009-10

Procured by	MUs Sent out
GUVNL	1543
DGVCL	5460



MGVCL	3936
UGVCL	7019
PGVCL	9648
DD and DNH	942
Auxiliary Consumption	7
Total Energy Sent Out	28,555

Commission's Analysis

The Commission has examined the Petitioner's submission of the energy received and sent out by the GETCO system during the first half of FY 2009-10. The Commission takes note of the energy balance maintained by GETCO during FY 2009-10.

3.6. Transmission Loss

Petitioner's submission

The Petitioner has submitted that the transmission loss for the first half of FY 2009-10 was 4.96%. The details of the transmission loss submitted by the Petitioner for FY 2009-10 are summarized in Table 14.

Table 14 : Transmission loss stated by GETCO for first half of FY 2009-10

Particulars	Revised Estimate
Total energy received (MUs)	30,045
Total energy sent out (MUs)	28,554
Transmission Loss (MUs/%)	1491/ (4.96%)

The Petitioner has further estimated that the transmission loss for FY 2009-10 is estimated to be 5.00%. The details submitted by the Petitioner include the following:

Table 15: Transmission loss estimated by GETCO for FY 2009-10

Particulars	As per MYT order for FY 2009-10	H1 Actual FY 2009-10	Revised estimate for FY 2009-10
Transmission Loss (%)	4.04	4.96	5.00

The Petitioner has explained that the transmission loss levels have been higher in comparison to the previous years because of lower drawl of power from the GETCO's system in South Gujarat. The Petitioner has stated that on account of lower drawl of power from the South Gujarat region, the power generated in this region is required to travel northwards resulting in higher levels of transmission loss. The Petitioner has further stated that due to commissioning of the SUGEN power plant by Torrent Power Ltd, the city of Surat is being directly fed by this newly commissioned power plant and the drawl on the GETCO system has further reduced. Also, the Petitioner has stated that on account of the feeding of Daman and Diu load



directly from the PGCIL network, the drawl of power from the GETCO system has reduced.

The Petitioner has stated the above two factors as being responsible for the higher transmission losses noted during the first half of FY 2009-10 and for the significant increase in the revised estimates of the transmission loss for FY 2009-10.

The Petitioner has further submitted a technical study which was carried out to identify the reasons for the increase in the transmission losses. As per the study, the average transmission loss level for the period between April 2009 and November 2009 is 4.88% on the basis of energy accounting system. The Petitioner has further revised the calculation on the basis of actual energy transmitted through the GETCO network and estimated the average loss for the same period at 4.42%. The details of the monthly loss level computed by the Petitioner in the above mentioned study are as under:

Table 16: Analysis of Transmission loss for GETCO system for FY 2009-10

Months	Transmission loss (%)	
	As per the Existing method of loss estimation On the basis of energy accounting	As per the revised method of loss estimation on the basis of actual energy transmitted
April	4.42	3.91
May	4.07	3.76
June	5.61	5.12
July	3.75	3.28
August	6.02	5.36
September	5.80	5.28
October	5.11	4.54
November	4.44	4.12
For April '09 to November '09	4.88	4.42

Further, in line with the earlier reasons stated for the increase in the transmission loss, the Petitioner has in the technical study stated three reasons for the increase in the transmission loss levels. The reasons are stated below:

- a. High agricultural loading of Saurashtra and North Gujarat region
- b. Migration of surplus power from the low loss area of South Gujarat including the Union Territory and Surat to Saurashtra and North Gujarat region resulting in increased distance and higher losses
- c. Current method of estimation based on net energy received from the central sector.

Commission's analysis



The Commission has examined the transmission loss levels for the GETCO system submitted by the Petitioner. In the MYT Order dated 17th January 2009, the Commission had assessed the historical transmission loss levels of the Petitioner and had permitted a transmission loss level of 4.09% for FY 2008-09. The Petitioner however, in its petition for APR of FY 2008-09 and revised ARR of FY 2009-10 had submitted a revised estimate of transmission loss at 4.30%. In its order dated 14th December 09, the Commission had noted and accepted the reasons of higher transmission loss stated by the Petitioner and permitted the higher transmission loss level. The Petitioner had also submitted a detailed analysis of the energy balance information to substantiate the reasons given for the higher levels of transmission loss.

The Commission has noted that as per the technical study, up to the period of November 2009, the average loss level has been 4.42%. This level is lower than the earlier submission of the Petitioner for H1 of FY 2009-10 at 4.96%. The Commission has noted that one of the reasons contributing to the lower average loss level is the revised methodology adopted for estimation of the loss level. The Commission has also noted that as per historical trends, the peak loading is observed for the period between June to September on account of demand from the agricultural consumers. For the remaining part of the year, viz. from September to March, the load requirement is lower. Therefore, given the fact that the average loss level inclusive of the peak load demand period is 4.42%, the Commission is of the view that for the remaining period, the loss level can be further reduced. The Commission has also noted that as per its last order dated 14th December 2009, the loss level permitted for FY 2009-10 is 4.25%. The Commission has therefore, based on the analysis of the technical study and on the basis of historical trends, approves the transmission loss level of 4.25% for FY 2009-10. The transmission loss level approved for FY 2009-10 is indicated in Table 17.

Table 17: Transmission loss for GETCO system for FY 2009-10

Particulars	Approved as per order dated 14-12-2009	Revised approved for FY 2009-10
Transmission Loss (%)	4.25	4.25

3.7. Availability of the transmission system for FY 2010-11

Petitioner's Submission

The Petitioner has estimated that during FY 2010-11, the overall system availability would be at 99.62%. The availability of the transmission system projected by the Petitioner for FY 2010-11 is summarized in Table 18.



Table 18 : Estimated availability of transmission system for FY 2010-11

(%)

Sr. No.	Description	As per MYT order for FY 2010-11	Revised estimate by GETCO for FY 2010-11
1	400 kV	99.40	99.55
2	220 kV	99.00	99.20
3	132 kV	98.98	99.47
4	66 kV	99.70	99.71
5	Sub-stations	99.94	99.83
6	GETCO System Availability	99.40	99.62

The Petitioner has further submitted that the system availability estimated for FY 2010-11 is higher than the level considered by the Commission under the MYT order dated 17th January 2009.

Commission's analysis

The Commission has reviewed the projection submitted by the Petitioner in regard to the availability of the transmission system for FY 2010-11. The Commission has observed that the Petitioner has historically maintained higher levels of system availability when compared to the approved target level. The Commission has taken note of the overall transmission system availability level of 99.62% for FY 2010-11 as projected by the Petitioner. The approved availability for transmission system for FY 2010-11 is indicated in Table 19.

Table 19: Availability of the transmission system for FY 2010-11

(%)

Sr. No.	Description	As per MYT order for FY 2010-11	Revised estimate by GETCO	Revised Approved for FY 2009-10
1	400 kV	99.40	99.55	99.55
2	220 kV	99.00	99.20	99.20
3	132 kV	98.98	99.47	99.47
4	66 kV	99.70	99.71	99.71
5	Sub-stations	99.94	99.83	99.83
6	GETCO System Availability	99.40	99.62	99.62

3.8. Loading of the transmission system for FY 2010-11

Petitioner's Submission

The Petitioner has submitted that during FY 2010-11, it expects additional loading of 2,777 MW from central, state and private generating stations. The Petitioner has therefore projected a total system loading for FY 2010-11 at 15,241 MW. The details



of the additional system loading projected by the petitioner for FY 2010-11 are summarized in Table 20

Table 20 : Additional system loading estimated by GETCO for FY 2010-11

(MW)

Sr. No.	Station	Rated Capacity MW	Aux Cons (%)	Gujarat Share	Transmission Losses (%)	Total MW on GETCO System
A	IPPs					
1	GSPC Pipavav	700	10	700	0	634
2	GSEG Hazira	360	10	360	0	326
3	Adani Power Pvt Ltd. Bid.no 1	1,000	0	1,000	5	950
	Total IPPs			2,060		1,909
B	Share from the Central Sector					
1	NTPC- Barth (ER)	1980	7.50	87	8	74
2	NTPC- Sipat-1 (3*660)	1,980	7.50	180	5	158
3	NTPC- North Karanpara	1980	7.50	154	5	135
C	Total Share of the Central Sector			421		368
	Total			2481		2277
1	Wind Farm Capacity					500
				2,481		2,777

The total loading of the GETCO system estimated by the Petitioner for FY 2010-11 is summarized in Table 21.

Table 21 : Total system loading estimated by GETCO for FY 2010-11

(MW)

Sr. No.	Stations	As per MYT Order for FY 2010-11	Revised estimate by GETCO for FY 2010-11
A	GSECL Plants	4,791	4,792
B	IPPs	3,283	3,965
C	Share from Central Sector	3,199	3,209
D	CPP Wheeling	711	840
E	Wind Farm Capacity	1,785	2,435
	Total Loading in MW	13,769	15,241

The Petitioner has estimated the total loading on the transmission system for FY 2010-11 at 15,241 MW.

Commission's Analysis



In its MYT order; the Commission had envisaged a total loading of 14,329 MW for FY 2010-11. This load level was however inclusive of 560 MW of load from the DD & DNH and firm captive capacity. Since the load from these stations is no longer to be considered for GETCO, the revised load level stands at 13,769 MW. The Commission has further observed that the loading levels for FY 2010-11 projected by the Petitioner is higher than the system loading approved under the MYT Order. While in the MYT order, the additional load from IPPs was projected to be 130 MW, the Petitioner has revised this to 1,909 MW. This is inclusive of loading from GSPC Pipavav, GSEG Hazira and from Adani Power Pvt Ltd. The share of the central sector has also been revised upwards with higher loading projections being considered from NTPC-North Karanpura, and from NTPC-Sipat-I.

The Commission has noted the higher load levels projected by the Petitioner and approves the revised loading level for FY 2010-11. The approved system load level is summarized in Table 22.

Table 22: Total loading of the transmission system approved for FY 2010-11

Sr. No.	Stations	As per MYT Order for FY 2010-11	Revised Estimate by GETCO for FY 2010-11	Revised Approved for FY 2010-11
A	GSECL Plants	4,791	4,792	4,792
B	IPPs	3,283	3,965	3,965
C	Share from Central Sector	3,199	3,209	3,209
D	Firm Captive Capacity	33	-	-
E	DD and DNH Loading	527	-	-
F	CPP Wheeling	711	840	840
G	Wind Farm Capacity (wheeling)	1785	2,435	2,435
	Total Loading in MW	14,329	15,241	15,241

3.9. Transmission Loss

Petitioner's Submission

The Petitioner has estimated a transmission loss level of 4.95% for FY 2010-11. The details of the Petitioner's submission are indicated in Table 23.

Table 23: Transmission loss estimated by GETCO for FY 2010-11

Particulars	As per MYT Order for FY 2010-11	Revised estimate by GETCO for FY 2010-11
Transmission loss (%)	3.99	4.95

The Petitioner has submitted that it has estimated a higher transmission loss levels during FY 2010-11 due to change in the load feeding pattern. The petitioner has explained that with the commissioning of the SUGEN power plant by Torrent Power Ltd, the load for Surat region is being directly fed from SUGEN and this led to lower



drawal of power from its system in South Gujarat. The petitioner has further submitted that the load for the regions of DD and DNH is being directly fed from the PGCIL network. These reasons have contributed to lower usage of its system in South Gujarat. Therefore, the power has to travel over longer distances from South Gujarat to North Gujarat which increases transmission loss. The Petitioner has further submitted a technical study which details the reasons behind the increasing transmission loss levels.

The Petitioner has submitted a road map for the control and reduction of transmission losses. Accordingly generation of 330 MW will be added in FY 2010-11 in the area of Kutch and this would reduce transmission losses further.

Commission's Analysis

The Commission has taken note of the reasons stated by the Petitioner for the higher loss levels that have been estimated for FY 2010-11. The Commission has also analyzed the technical study which has been conducted by the Petitioner to identify the reasons for the increasing loss levels. As per the study of the Petitioner for the period between April 2009 and November 2009, the average transmission loss level has been 4.42%. Based on this result and on the historical trends, the Commission for FY 2009-10 permitted a revised loss level of 4.25%.

For FY 2010-11, the Commission has noted that the Petitioner has revised its loss level downwards to 4.95%. However, the Commission is of the view that since in FY 2009-10, the Petitioner has achieved a lower loss level than the earlier projected levels, the same can be further reduced during FY 2010-11. The view of the Commission in this regard is in line with the reduction in losses as stated by the Petitioner in the road map. Therefore, on the basis of the loss level of 4.25% which has been permitted for FY 2009-10, the Commission approves a loss level of 4.20% for FY 2010-11 and the same is summarized in Table 24.

Table 24 : Transmission loss for FY 2010-11

Particulars	As per MYT Order for FY 2010-11	Revised estimate by GETCO for FY 2010-11	Revised Approved for FY 2010-11
Transmission loss (%)	3.99	4.95	4.20



4. Annual Performance Review for FY 2009-10

4.1. Introduction

This chapter of the order deals with the Annual Performance Review for FY 2009-10 for GETCO. The Commission has analysed each of the components of the ARR for the FY 2009-10 in the following sections.

4.2. Operations and Maintenance expenses

Petitioner's submission

The Petitioner has submitted the actual Operations and Maintenance (O & M) cost for H1 of FY 2009-10. For the remaining part of FY 2009-10, the Petitioner has revised the cost estimates. The Petitioner has claimed O&M expenses under the following heads:

- Employee cost
- Repair and maintenance (R&M) expenses
- Administration and General (A & G) expenses

The details of the O&M expenses submitted by the Petitioner for H1 of FY 2009-10 are summarized in Table 25

Table 25 : O&M costs submitted by GETCO for FY 2009-10

(Rs in crores)

Sr. No	Particulars	As per MYT order for FY 2009-10	H1 Actual FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
1	Employee cost	290.92	186.80	411.23
2	Repair & Maintenance	97.36	67.41	141.00
3	Administration & General Expenses	47.57	27.73	66.14
	Operations & Maintenance Expenses	435.85	281.94	618.37

The Petitioner has submitted higher O&M expense compared to the O & M expenses approved under the MYT order. The O&M expense incurred during H1 is approximately 64% of the total approved under the MYT order dated 17th January 2009. The total O&M expense claimed by the Petitioner is approximately 42% higher than the amount approved under the MYT Order. The category-wise details submitted by the Petitioner and analysis of the Commission are presented in the following paragraphs.



Employee costs**Petitioner's submission**

The Petitioner has projected a revised estimate of Rs 411.23 crores towards employee cost for FY 2009-10. Of this, the Petitioner has stated that Rs 186.80 crores have been incurred at the end of H1. The details of the employee costs claimed by the Petitioner for FY 2009-10 are presented in Table 26

Table 26 : Employee cost submitted by GETCO for FY 2009-10

(Rs in crores)

Sr. No	Particulars	As per MYT order for FY 2009-10	H1 Actual FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
1	Employee cost	260.77	186.80	381.08
2	Employee cost on account of provisions for sixth pay commission for FY 2007-08	30.15	-	30.15
	Total costs	290.92	186.80	411.23

The Petitioner has estimated a 46% increase in the employee costs over the MYT approved cost estimates of Rs 260.77 crores. The Petitioner has stated that the increase in the employee costs is due to increase in the dearness allowance to be paid to the employees. The Petitioner has also considered the approved provision of Rs 30.15 crores for payments towards arrears of FY 2007-08 due to pay revision in line with the Sixth Pay Commission. The Petitioner has submitted that employee expenditure is estimated on the basis of actual employee cost incurred by the company during H1 of FY 2009-10.

Commission's Analysis

The Commission has examined the employee cost approved under the order dated 14th December 2009 and has reviewed the details of the actual costs incurred by the Petitioner during H1 of FY 2009-10. At the end of H1, the Petitioner had incurred Rs 186.80 crores towards employee costs. As per the revisions proposed, the Commission has observed that there is an increase of 41% from the approved employee costs. In addition, the Commission has also taken into account the Rs 30.15 crores which had been approved previously towards provisioning for employee costs incurred due to the sixth pay commission. The Commission has also compared the revised estimates for FY 2009-10 with the actual expense incurred by the Petitioner at the end of FY 2008-09. The actual expense incurred for employee costs of FY 2008-09 was Rs 371.43 crores. The revised estimate for FY 2009-10 is therefore 11% over the actual expenses incurred in FY 2008-09. The Petitioner had stated that the increase in the employee expense has been due to increases in the dearness allowance.



The Commission has further analyzed the detailed break up of the employee expenses estimated by the Petitioner for FY 2009-10. The Commission has noted that the highest category of increase in employee costs has been the expenses made towards salaries alone. The Commission has noted that while in FY 2008-09, Rs 77.96 crores were paid towards salaries, during FY 2009-10, salary expense is estimated at Rs 152.08 crores.

The Petitioner has requested for the treatment of the parameters for variations in the employee cost over the approved estimates as an uncontrollable parameter. With regard to the employee cost, the Commission considers it as a controllable expense which is in line with the MYT Regulations. However, with respect to the expense on account of implementation of Sixth Pay Commission, the Commission considers it as an uncontrollable expense. Accordingly, the Commission considers the parameters impacting the gains/losses on annual performance review of employee expenses as controllable except for the impact of sixth pay commission which is considered as uncontrollable. The Commission has also noted the clarification given by the Petitioner that the increase in the employee expense is on account of increases in salaries and allowance due to pay scale revision in line with the Sixth Pay Commission. The Commission has also taken into account the clarification by the Petitioner that the employee expenditure has been estimated on the basis of actual employee cost incurred by the company during H1 of FY 2009-10.

It is further submitted that the employee cost has been estimated considering trend of H1 employee cost, increase in dearness allowance and other expenses such as House Rent Allowance (HRA). Further, revised expenses also include increase in salary due to regular increments as well as promotions.

Therefore, the Commission is of the opinion that these should be considered as uncontrollable. Based on the above approach, the Commission approves the employee expenses for FY 2009-10 as indicated in Table 27.

Table 27 : Approved employee costs for FY 2009-10

(Rs in crores)

Sr. No.	Particulars	As per MYT order for FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Employee cost	260.77	381.08	381.08
2	Employee cost on account of provisions for sixth pay commission for FY 2007-08	30.15	30.15	30.15
	Total	290.92	411.23	411.23



Repair and maintenance (R&M) expenses**Petitioner's submission**

The Petitioner has estimated the total R&M expense at Rs 141.00 crores for FY 2009-10. Further the Petitioner has submitted the actual expense incurred for H1 at Rs 67.41 crores. The R&M expense estimated by the Petitioner for FY 2009-10 is summarized in Table 28.

Table 28 : R&M expense estimated by GETCO for FY 2009-10

(Rs in crores)

Sr. No.	Particulars	As per MYT order for FY 2009-10	H1 Actual FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
1	Repair & Maintenance	97.36	67.41	141.00

The Petitioner has submitted that the parameters impacting the R&M expenses should be considered as uncontrollable in nature. Based on the expense incurred towards R&M activity, the Petitioner has revised the estimate for FY 2009-10 to Rs 141 crores.

Commission's Analysis

The Commission has examined the submissions made by the Petitioner for FY 2009-10. The Commission has observed that the R&M expense of Rs 67.41 crores incurred at the end of H1 is 69% of the total approved expense. Also, the Commission has noted that the total revised estimate for FY 2009-10 towards R&M estimated by the Petitioner is 45% higher than the expense approved in the order dated 14th December 09. The Commission has also compared the revised estimates of R&M expense with that of actual expenses incurred at the end of FY 2008-09. The revised estimated for FY 2009-10 is an increase of 12% over the actual expenses of FY 2008-09. As per the Commission's order dated 14th December 2009, R&M expense is to escalate on a year on year basis by only 6%. The Commission has noted that the revision in R&M expense estimated by the Petitioner is higher than the permissible escalation rate.

The Petitioner has stated that the increase in the R&M expenses have been due to regular expenses made towards its old assets. The Petitioner has stated this expense should be treated as an uncontrollable expense.

The Commission is however of the opinion that parameters impacting R&M expense are controllable in nature, therefore any variation in the R&M expense over the amount approved under the MYT Order should be treated as controllable. Based on



this approach, the Commission approves the R&M expense for FY 2009-10 which is summarized in Table 29.

Table 29 : Approved R&M expenses for FY 2009-10

(Rs in crores)

Sr. No.	Particulars	As per MYT order for FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Repair & Maintenance	97.36	141.00	97.36

Administrative & General (A& G) expenses

Petitioner's submission

The Petitioner has estimated that the total expense for FY 2009-10 to be Rs 66.14 crores. The Petitioner has further stated that at the end of H1 of FY 2009-10, Rs 27.73 crores had been incurred towards A&G. A&G expense estimated by the Petitioner is summarized in Table 30.

Table 30 : A&G expenses expense estimated by GETCO for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	As per MYT order for FY 2009-10	H1 Actual FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
1	Administration & General Expenses	47.57	27.73	66.14

Commission's Analysis

The Commission has compared the expense approved in the order dated 14th December 2009, with the revised estimates submitted by the Petitioner for FY 2009-10. The Commission in the order dated 14th December 2009 had approved Rs 47.57 crores towards A&G expense for FY 2009-10. The Commission has observed that the Petitioner during H1 has already spent Rs 27.73 crores towards A&G expenses. The Commission has also compared the revised expense value with the actual expense incurred in FY 2008-09. The Commission has observed that the revised estimate submitted for FY 2009-10 is higher by 40% over the actual expenses incurred at the end of FY 2008-09. The Commission further undertook an item wise comparison of the A&G expenses of FY 2008-09 with the revised estimates of FY 2009-10 and has noted that there has been significant upward revision towards miscellaneous expenses and payments toward taxes and fees. The Commission in



its order dated 14th December 2009 had permitted a year on year increase of 6% in A&G expense.

The Commission is of the opinion that parameters impacting A&G expense are controllable in nature, therefore any variation in the A&G expense over the amount approved under the MYT Order should be treated as controllable. Based on this approach, the Commission approves the A&G expense for FY 2009-10 which are summarized Table 31.

Table 31 : A&G expenses approved for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	As per MYT order for FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Administration & General Charges	47.57	66.14	47.57

4.3. Summary of Commission's analysis of the O&M expenses

On the basis of the Commission's analysis of each of the items, presented in the above sections, the approved O&M expenses by the Commission are represented in Table 32.

Table 32 : O&M expenses approved for FY 2009-10

(Rs in Crores)

Sr. No.	Operations & Maintenance Expenses	As per MYT order for FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Employee Cost	290.92	411.23	411.23
2	Repair & Maintenance	97.36	141.00	97.36
3	Administration & General Charges	47.57	66.14	47.57
	Total O&M	435.85	618.36	556.16

4.4. ULDC Charges for FY 2009-10

Petitioner's submission

The Petitioner has submitted the ULDC expenses for FY 2009-10 at Rs 7.70 crores. ULDC charges are the charges to be paid for 15 years at the rate of Rs. 1.28 crores per month to Power Grid Corporation India Limited (PGCIL) for participation in the Unified Load Despatch and Communication Scheme executed by PGCIL. These charges are effective from FY 2005-06 and are determined by CERC. The details of the ULDC charges claimed by the Petitioner are indicated in Table 33.



Table 33: ULDC charges estimated by GETCO for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	As per MYT order for FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
1	ULDC Charges	15.36	7.70

The Petitioner has stated that the revised estimate of ULDC expenses for FY 2009-10 is lower than the amount of Rs 15.36 crores which was earlier approved by the Commission.

Commission's analysis

The Commission has examined the submission for the ULDC charges. The Commission has noted that as per the order dated 14th December 2009, from FY 2009-10, the ULDC charges are to be paid by SLDC. The Commission has noted that in its earlier order dated 17th January 2009, ULDC charges to the tune of Rs 15.36 crores were approved for FY 2009-10. However, with SLDC being set up as a separate legal entity, it was directed in the Order dated 14th December 2009, that the ULDC charges were to be paid by SLDC and were henceforth not to be reflected as an item of expense in GETCO's books. The Commission had sought for clarification from GETCO for inclusion of ULDC expenses by the Petitioner for FY 2009-10. The Petitioner had clarified that though ULDC charges are to be paid by SLDC, the same have been borne by GETCO for FY 2009-10. The Petitioner has therefore included this expense for GETCO.

The Commission has verified the expenses incurred and estimated by SLDC for FY 2009-10. The Commission has observed that a component of ULDC charges have been included in the expenses being claimed by SLDC indicating an element of double counting with reference to expense being claimed against ULDC charges. The Commission is therefore of the opinion that, ULDC charges should be claimed by SLDC alone for FY 2009-10 and therein, the expense claim made by GETCO for the same would not be permissible. The summary of ULDC expenses now approved by the Commission for FY 2009-10 is summarized in Table 34.

Table 34 : Approved ULDC charges for FY 2009-10

(Rs in Crores)

Sr. No	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	ULDC Charges	-	7.70	-



4.5. Capital expenditure for FY 2009-10

Petitioner's submission

The Petitioner has stated that capital expenditure to the tune of Rs 1,393 crores would be undertaken by the end of FY 2009-10. The Petitioner has further submitted that at the end of H1 of FY 2009-10, capital expenditure to the tune of Rs 626.96 crores has been incurred. The details of the capital expenditure estimated by the Petitioner for FY2009-10 are summarized in Table 35.

Table 35 : Capital expenditure submitted by GETCO for FY 2009-10

(Rs in Crores)

Sr. No	Particulars	Revised estimates submitted by GETCO for FY 2009-10
	New Projects	
1	400 kV Sub-stations	65.84
2	400 kV Lines	457.16
3	220 kV Sub-station	176.58
4	220 kV Lines	205.46
5	132 kV Lines	8.03
6	132 kV Sub-station	-
7	66 kV Sub-station	145.18
8	66 kV Lines	115.42
9	Bus Reactor (80 & 125 MVA)	47.69
10	Transformer Bay	-
11	Shunt Capacitor	-
	Sub Total of New Projects	1221.35
	R&M	
1	Renovation and Modernization	117.20
2	Augmentation of sub-station/ Lines	55.00
	Sub Total of R&M	172.20
	Total	1,393.55

The Petitioner has further submitted that the capital expenditure has been incurred mainly for establishment of new sub-stations along with associated transmission network.

Commission's Analysis:

The Commission has examined the capital expenditure estimated by the Petitioner for FY 2009-10. The Commission has also examined the addition to assets made by the Petitioner at the end of H1 of FY 2009-10 stated in the petition. The Commission



has observed that at the end of H1 of FY 2009-10, the capital expenditure actually incurred by the Petitioner is Rs 626.96 crores. The Commission observes that the actual capital expenditure incurred by the Petitioner is approximately 45% of the total planned capital expenditure for FY 2009-10. The Commission had asked for clarification from the Petitioner on the amount of capitalization which has been undertaken during H1. The Petitioner had clarified that at the end of H1, Rs 68.52 crores worth capitalization has been achieved. The Commission sought clarification from the Petitioner on the extent of capital expenditure which is likely to be undertaken within H2. The Petitioner has provided clarification that a significant portion of the estimated capital expenditure is expected to be capitalized during the H2 period. The Petitioner has further stated that 60% of the opening capital works in progress of FY 2009-10 and 40% of the capital expenditure planned for FY 2009-10 would be capitalized. Also, other expenses such as employee expense capitalized, interest expenses capitalized etc are to be included in the total capitalization considered for FY 2009-10.

The capital expenditure, as stated by the Petitioner, has been on account of augmentation of the existing capacity to meet the current and future load demand, for undertaking renovation and for modernization works. Based on the above observation the Commission approves the total capitalisation of Rs 1,155.98 crores for FY 2009-10 which is summarized in Table 36.

Table 36 : Approved capitalization for FY 2009-10

(Rs in Crores)

Particulars	As per MYT order for FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
Capital expenditure for the Year	1,610.37	1,393.55	1,393.55
Capitalization	-	-	1,155.98

4.6. Funding of capital expenditure for FY 2009-10

Petitioner's submission

The Petitioner has submitted that the capital expenditure for FY 2009-10 has been funded through internal accruals and by raising debt. The break up of the capital expenditure funding submitted by the Petitioner is given in Table 37.

Table 37 : Funding of capital expenditure estimated by GETCO for FY 2009-10

(Rs in Crores)

Particulars	As per MYT order for FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
Capital expenditure for the Year	1,610.37	1,393.55



Particulars	As per MYT order for FY 2009-10	Revised estimates submitted by GETCO for FY 2009-10
Debt	1,127.26	975.48
Equity	483.11	418.06

The Petitioner has considered the normative debt-equity ratio of 70:30 while estimating the funding for the estimated capital expenditure.

Commission's Analysis:

The Commission has examined the submission of the Petitioner with regard to the sources of funding for the capital expenditure for FY 2009-10. The Commission has also estimated that the likely capitalisation for FY 2009-10 would be Rs 1,155.98 crores. On the basis of the normative debt-equity ratio of 70:30 submitted by the Petitioner, the Commission approves the source of funding as summarized in Table 38.

Table 38 : Approved funding of capitalized assets for FY 2009-10

(Rs in Crores)

Particulars	As per MYT order for FY 2009-10	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
Capital expenditure for the Year	1,610.37	1,393.55	1,393.55	1,393.55
Capitalization	-	1,393.55	-	1,155.98
Debt	1,127.26	884.48	975.48	809.18
Equity	483.11	379.06	418.06	346.79

4.7. Depreciation for FY 2009-10

Petitioner's submission

The Petitioner has submitted a total depreciation expense of Rs 337.05 crores for FY 2009-10. The details of the submission of the Petitioner are summarized in Table 39

Table 39: Depreciation expenses submitted by GETCO for FY 2009-10

(Rs in Crores)

Sr. No	Particulars	As per MYT order for FY 2009-10	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10
1	Gross Block in Beginning of the year	5,802.14	6,011.13	6,070.99
2	Additions during the Year (Net)	595.47	1,393.00	1,155.97



Sr. No.	Particulars	As per MYT order for FY 2009-10	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10
3	Depreciation for the Year	193.98	340.07	337.05
4	Average Rate of Depreciation	3.18%	5.07%	5.07%

The Petitioner has computed depreciation on the opening gross block of fixed assets of Rs 6,070 crores for FY 2009-10 and has estimated a net addition of assets of Rs 1155.97 crores during the year. Further, the rate of depreciation has been considered as per the CERC norms.

Commission's analysis

The Commission has observed that the Petitioner has estimated a depreciation expense of Rs 337.04 crores for FY 2009-10. As per the order dated 14th December, the opening Gross Fixed Assets (GFA) considered for FY 2009-10 was Rs 6011.13 crores. This was based on the provisional accounts submitted by the Petitioner for FY 2008-09. The Petitioner has now submitted audited accounts for FY 2008-09. The Commission has verified that for FY 2008-09, the closing GFA was Rs 6,070.99 crores. Based on the verification, the Commission has noted that the actual opening GFA for FY 2009-10 was Rs 6,070.99 crores. For the computation of depreciation, the Commission therefore considers the audited closing GFA of FY 2008-09 as opening GFA for FY 2009-10.

The Commission has further noted that the actual capitalisation for the year FY 2009-10 estimated by the Petitioner is based on the assumption that 60% of the opening capital works- in- progress of FY 2009-10 and 40% of the capital expenditure planned for FY 2009-10 would be capitalized during FY 2009-10.

Also, the Commission has noted that the total capitalization value for FY 2009-10 is inclusive of the other expenses capitalized (interest expense capitalized, operation and maintenance expenses capitalized etc) by the Petitioner. The Commission has noted that therefore the capitalization for FY 2009-10 to be considered is Rs 1,155.98 crores. Table 40 below shows the computation of the closing GFA for FY 2009-10.

Table 40: Opening and closing GFA for FY 2009-10

(Rs. in crores)

Gross Block as on 31.03.2009	Addition to Gross Block during 2009-10	Gross Block as on 31.03.2010
6,070.99	1,155.98	7,226.96

The Commission has also noted that the rate of depreciation considered by the Petitioner is as per the CERC regulation.



The closing GFA of the FY 2008-09 is considered as opening GFA for FY 2009-10 and the depreciation rates were considered as per new rates prescribed under CERC Tariff Regulations.

It must be noted here that Clause 17 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 specifies that depreciation shall be calculated annually based on Straight Line Method at rates specified in Appendix-III of the said regulations. Provided that, the remaining depreciable value as on 31st March of the year closing after a period of twelve years from date of commercial operation shall be spread over the balance useful life of the assets.

It further specifies that in case of the existing projects, the balance depreciable value as on 1st April,2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31st March 2009 from the gross depreciable value of the assets.

The Petitioner has calculated the depreciation by applying the new rates on the total gross assets without segregating the assets as mentioned in the regulation. The Commission has considered the depreciation as submitted by the Petitioner but hereby directs the Petitioner to submit the recomputed depreciation as per Clause 17 of CERC (Terms and Conditions of Tariff) Regulations, 2009 during the truing-up of FY 2009-10.

Based on the above principle the Commission approves the depreciation for FY 2009-10. The amount of depreciation approved for FY 2009-10 is summarized in Table 41.

Table 41 : Approved depreciation expenses for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Gross Block in Beginning of the year	6,011.13	6,070.99	6,070.99
2	Additions during the Year (Net)	1,393	1,155.98	1,155.98
3	Depreciation for the Year	340.07	337.10	337.10

4.8. Advance against Depreciation for FY 2009-10

Petitioner's submission

The Petitioner has submitted that it is considering depreciation at the rates now revised by the CERC. Accordingly, it is not considering any AAD for the FY 2009-10.



Commission's Analysis

The Commission has examined the submission of the Petitioner. The Commission has observed that the Petitioner has not considered any AAD as it has considered the revised depreciation rates provided by the CERC. The Commission has observed that under the revised CERC guidelines, AAD is no longer permissible. Accordingly, the Commission approves the submission of the Petitioner.

4.9. Interest and Finance charges for FY 2009-10

Petitioner's submission

The Petitioner has estimated an amount of Rs 277.69 crores towards total interest and finance charges for FY 2009-10 which is lower than Rs 281.48 crores approved under the order dated 14th December 2009. The details of the interest and finance charges estimated by the petitioner are presented in Table 42

Table 42 : Interest and Finance charges estimated by GETCO for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per MYT order	Revised estimates submitted by GETCO for FY 2009-10
1	Opening Loans	1,642.65	2,518.33.
2	Loan Additions during the Year	884.00	875.48
3	Repayment during the Year	269.01	251.83
4	Closing Loans	2257.65	3,141.98
5	Average Loans	1950.15	2,830.15
6	Interest on Loan	204.73	273.38
7	Guarantee Charges	2.00	431.39
8	Total Interest & Financial Charges	206.73	277.69
9	Weighted average rate of interest	10.50%	10.02%

The Petitioner has estimated the interest and finance charges on opening loan of Rs 2,518 crores for FY 2009-10 and has assumed an additional loan of Rs 875 crores being raised during FY 2009-10. The Petitioner has assumed an average tenure of the loan as 10 years.

Commission's analysis

The Commission has examined the submission of the Petitioner with regard to the amount of loan and interest repayment. The Commission has also reviewed the actual payments made as interest and finance charges as shared by the Petitioner. The Commission has observed that the interest & finance charges claimed by the



Petitioner of Rs 277.69 crores are higher than the amount of Rs 206.73 crores approved under the order dated 14th December 2009. The Commission has further computed the interest and finance charges based on the capitalization estimated and the normative funding assumed. The interest and finance charges so computed by the Commission are stated in the **Table 43**

Table 43: Interest and finance charges computed by Commission for FY 2009-10
(Rs in Crores)

Sr. No.	Particulars	Revised computed by Commission for FY 2009-10
1	Opening Loans	1,642.65
2	Loan Additions during the Year	809.18
3	Repayment during the Year	164.27
4	Closing Loans	2287.57
5	Average Loans	1965.11
6	Interest on Loan	196.94
7	Guarantee Charges	4.31
8	Total Interest & Financial Charges	201.25
9	Weighted Average Rate of Interest on Loan	10.02%

The Commission has observed that on the basis of assuming the capitalization value of Rs 1,155 crores for FY 2009-10, the debt computed on a normative basis is Rs 809.18 crores. Based on these estimates, the interest and finance charges computed by the Commission for FY 2009-10 are Rs 201.25 crores. This amount is lower than the amount which was approved in the order dated 14th December 2009.

The Commission has further observed that Regulation 9.6.2(e) of the MYT Regulations considers parameters which impact the variance in interest and finance charges as controllable. However, the Commission is of the view that interest and finance charges are directly linked to the amount of borrowing. Further, the amount of borrowing is directly linked to the amount of capital expenditure which the petitioner undertakes. Finally, the amount of interest and finance charge is directly dependent on the amount of capitalization undertaken during a financial year. In light of this the Commission is of the view that the parameters which impact interest & finance charges should be treated as uncontrollable.

Based on this approach and the clarification made by the petitioner on the variances, the Commission has undertaken the annual performance review for FY 2009-10.

Accordingly, the Commission approves the amount of interest and finance charges of Rs. 201.25 crores. The amount of interest and finance charges approved by the Commission for FY 2009-10 are indicated in Table 44



Table 44 : Approved Interest and Finance charges for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Interest & Finance Charges	206.73	277.69	201.25

4.10. Return on Equity for FY 2009-10**Petitioner's submission**

The Petitioner has estimated a return on equity of Rs 281.20 crores for FY 2009-10. The details of the submission made by the Petitioner are summarized in Table 45.

Table 45: ROE submitted by GETCO for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10
1	Opening Equity Capital	1674.90	1,799.53
2	Equity Additions during the Year	379.06	418.06
3	Closing Equity	2,053.96	2,217.59
4	Average Equity	1,864.43	2,008.56
5	Rate of Return on the Equity	14%	14%
	Return on Equity	261.02	281.20

Commission's analysis

The Commission has examined that the return on equity estimated by the Petitioner is higher than the amount approved under the order dated 14th December 2009. The Commission further observes that the Regulation 9.6.2(e) of the MYT regulations considers the parameters impacting the variance in the return on equity as controllable. However, the Commission is of the view that the return on equity depends on the amount of capitalization as well as the debt to equity ratio considered during the financial year and these parameters are uncontrollable in nature.

Based on the above approach the Commission has computed the permissible return on equity for FY 2009-10. Accordingly, the Commission has computed the return on equity based on the actual capitalization made during the year. The Commission has on the basis of the provisional accounts estimated that the actual capitalization at Rs 1,155 crores during FY 2009-10. At a 14% rate of return, the return on equity



computed by the Commission is at Rs 258.76 crores. Commission's computation is summarized in the Table 46

Table 46: ROE estimated by the Commission for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Revised computed by Commission for FY 2009-10
1	Opening Equity Capital	1674.90
2	Equity Additions during the Year	346.79
3	Closing Equity	2,021.69
4	Average Equity	1,848
	Rate of Return on the Equity	14%
	Return on Equity	258.76

Based on the above computation the Commission approves Rs. 258.76 crores towards return on equity for FY 2009-10. The return on equity approved for FY 2009-10 by the Commission is indicated in Table 47.

Table 47: Approved ROE for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Return on Equity	261.02	281.20	258.76

4.11. Interest on Working Capital for FY 2009-10

Petitioner's submission

The Petitioner has claimed Rs. 36.50 crores towards interest on working capital compared to the Rs 35.86 crores approved under the order dated 14th December 2009 for FY 2009-10. The Petitioner has stated that the interest on working capital has been calculated based on the normative principles as provided under the GERC Terms and Conditions of Tariff Regulations, 2005. The details of interest on working capital charges submitted by the petitioner are presented in Table 48.

Table 48: Interest on working capital estimated by GETCO for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10
1	O & M expenses (1 Month)	42.73	52.17



2	Maintenance Spares (1% of Cost @ 6 % Escalation)	60.11	82.41
3	Receivables (2 Months)	246.97	221.56
4	Total Working Capital	349.81	356.14
5	Rate of Interest on Working Capital	10.25%	10.25%
	Interest on Working Capital	35.86	36.50

Commission's analysis

The Commission has examined the submission of the Petitioner. The Commission has observed that the interest on working capital claimed by the petitioner is higher than the amount approved under the order dated 14th December 2009. The Commission has computed the interest on working capital based on the approved estimates of O&M and normative computation of maintenance spares and receivables. The summary of the computation is shown in Table 49.

Table 49: Interest on working capital computed by Commission for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Revised computed by Commission for FY 2009-10
1	O & M expenses (1 Month)	46.35
2	Maintenance Spares (1% of Cost)	82.41
3	Receivables (2 Months)	191.67
4	Total Working Capital	320.42
5	Rate of Interest on Working Capital	10.25%
	Interest on Working Capital	32.84

Based on the above approach, the Commission approves the interest on working capital estimated. The details of the interest on working capital charges approved are indicated in Table 50.

Table 50: Approved Interest on working capital for FY 2009-10

(Rs in Crores)

Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
Interest on Working Capital	35.86	36.50	32.84

4.12. Income from other sources for FY 2009-10

Petitioner's submission

The Petitioner has estimated an amount of Rs 78.06 crores for FY 2009-10 as income from other sources which is higher than the amount of Rs 64.60 crores projected under the order dated 14th December 2009. The details of revenue from other income submitted by the Petitioner for FY 2009-10 are provided in Table 51.



Table 51: Other Income as submitted by GETCO for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10
1	Interest on Staff Loans and Advances.	1.39	1.45
2	Income from Investments deposits.		-
3	Interest on Advances to Others.		-
4	Interest from Banks		-
5	Income from Trading -Stores, Scrap etc.	4.09	4.24
6	Income from Staff Welfare Activities.		-
7	Gain on sale of Fixed Assets	3.09	3.04
8	Miscellaneous Receipts.	44.27	42.76
9	Contribution and Grants towards cost of capital assets	11.76	26.55
10	Net Other Income	64.60	78.06

Commission's analysis

The Commission has reviewed the revenue from other income estimated by the Petitioner for FY 2009-10. As per the order dated 14th December 2009, the Commission had approved a non-tariff income of Rs 64.60 crores. The Commission has noted that the Petitioner has revised the non-tariff income to Rs 78.06 crores for FY 2009-10. The Commission approves the revenue estimation from other sources made by the Petitioner. The income from other sources approved is summarized in the

Table 52 below:

Table 52: Other income approved by the Commission for FY 2009-10

(Rs crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Net other income	64.60	78.06	78.06

4.13. Expenses capitalized for FY 2009-10**Petitioner's submission**

The Petitioner has estimated an amount of Rs 194.54 crores for FY 2009-10 as expenses capitalized for FY 2009-10. The Petitioner has further stated that of the total amount estimated to be capitalised for FY 2009-10, Rs 47.03 crores is interest capitalised and Rs 147.51 crores represents other expenses which have been



capitalized. The details of expenses capitalized estimated by the Petitioner for FY 2009-10 are stated in Table 53

Table 53: Expenses capitalized as estimated by GETCO for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per MYT order	Revised estimates submitted by GETCO for FY 2009-10
1	Interest capitalized	-	47.03
2	Other expenses capitalized	-	147.51
	Total expenses capitalized	86.32	194.54

Commission's analysis

The Commission has noted the estimation of expenses to be capitalised estimated by the Petitioner. The Commission has also noted that as per the actual financial accounts of FY 2008-09, the expenses capitalized by the Petitioner were Rs 130 crores. The Commission approves the estimation of expenses to be capitalized presented by the Petitioner for FY 2009-10. The approved estimates are indicated in the Table 54

Table 54: Expenses capitalized approved by Commission for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per MYT order	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Interest capitalized	-	47.03	47.03
2	Other expenses capitalized	-	147.51	147.51
	Total expenses capitalized	86.32	194.54	194.54

4.14. Provision for tax for FY 2009-10

Petitioner's submission

The Petitioner has estimated an amount of Rs 43.45 crores for FY 2009-10 as provision for tax. The Petitioner has stated that the same has been estimated on the basis of a MAT at the rate of 15.45% on return on equity. The estimation made by the Petitioner is stated in the Table 55



Table 55: Income tax and other taxes estimated by GETCO for FY 2009-10

(Rs. crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10
1	Income tax and other taxes	31.87	43.45

Commission's analysis

The Commission has noted the estimation of the tax provision made by the Petitioner for FY 2009-10 is higher than that approved as per the order dated 14th December 2009. Since taxes are considered to be pass through, the Commission has considered the tax amount as the same as approved in the Order dated 14th December 2009, i.e. Rs 31.87 crores for the FY 2009-10. It will consider the actual tax paid during the truing up for FY 2009-10.

Table 56: Approved Revenue from other Income for FY 2009-10

(Rs in Crores)

Sr. No.	Particulars	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Income tax and other taxes	31.87	43.45	31.87

4.15. Incentive for Target availability**Petitioner's submission**

The Petitioner has for FY 2009-10, not claimed any incentives for higher availability achieved for the same year. Instead, the Petitioner has claimed the incentive for higher availability levels achieved in FY 2009-10 in its ARR filed for FY 2010-11. The Petitioner has submitted that the availability for FY 2009-10 at 99.61% is higher than the target of 98% provided under the regulations. The Petitioner has stated that the higher transmission availability is eligible for revenue incentive which needs to be estimated as per Regulation 58 of GERC's Terms and Conditions of Tariff, 2005. The Petitioner has claimed an incentive of Rs 40.47 crores for the increased availability of the transmission system.

Commission's Analysis

The Commission has noted that for FY 2009-10, the Petitioner has not claimed any incentive for higher availability levels achieved. The Commission is however of the view that the incentive to be claimed for availability levels met, should be included in the APR of FY 2009-10 and not be carried forward to the ARR of FY 2010-11. The



Commission has further noted that the Petitioner has estimated an incentive of Rs 40.47 crores based on the equity levels estimated for FY 2010-11. Further the Commission has noted that the incentive to be claimed has been computed by the Petitioner by comparing with a base target availability of 98%. The Commission has observed that the target availability for FY 2009-10 approved under the MYT Order is 99.36%. In this regard the Commission has noted that Regulation 8.2 of the MYT Regulations provides that trajectory provided under MYT Regulations shall replace trajectories fixed under any other regulation.

Based on the approach adopted, and the method described under the GERC's Terms and Conditions, the Commission has computed the incentive for FY 2009-10 as Rs 4.62 crores.

4.16. Annual Aggregate Revenue Requirement for FY 2009-10

Based on the above discussion the Commission has computed the Annual revenue requirement for FY 2009-10 as indicated in the table below:

Table 57: ARR for FY 2009-10 after annual performance review

(Rs in Crores)

Sr. No.	Particulars	As per MYT approved	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
1	Operations & Maintenance Expenses	435.85	432.28	618.36	556.16
1.1	<i>Employee Cost incl. impact on account of provisions of 6th Pay Commission for FY 2007-08 & FY 2008-09</i>	290.92	290.92	411.23	411.23
1.2	<i>Repair & Maintenance</i>	97.36	97.25	141.00	97.36
1.3	<i>Administration & General Charges</i>	47.57	44.11	66.14	47.57
2	ULDC Charges	15.36	-	7.70	0.00
3	Depreciation	193.98	340.08	337.05	337.10
4	Advance Against Depreciation	46.72	-	0.00	0.00
5	Interest & Finance Charges	281.48	206.73	277.69	201.25
6	Interest on Working Capital	31.58	35.86	36.50	32.84
7	Return on Equity	316.20	261.02	281.20	258.76
8	Total Fixed Costs	1,321.17	1,275.27	1,558.51	1,386.12
9	Less: Expenses Capitalized	86.32	119.67	194.54	194.54
10	Add: Provision for tax	-	31.87	43.45	31.87



Sr. No.	Particulars	As per MYT approved	Approved as per order dated 14-12-2009	Revised estimates submitted by GETCO for FY 2009-10	Considered for APR FY 2009-10
11	Total Transmission Charges	1,234.85	1187.47	1,407.42	1,223.45
12	Less: Other Income	45.14	64.60	78.06	78.06
13	Add: Incentive for target availability	-	0.042	-	4.62
	Aggregate Revenue Requirement	1,189.71	1,122.91	1,329.35	1,150.00



5. Determination of Aggregate Revenue Requirement for FY 2010-11

5.1.1. Approach for FY 2010-11

This section deals with the annual tariff determination for FY 2010-11. Regulation 9.7 of the MYT Regulations provides that the Commission shall, subsequent to the annual performance review, revise the forecast for the remaining period of the control period. Accordingly, after undertaking the annual performance review for FY 2009-10, the Commission has considered the tariff determination for the FY 2010-11.

With regard to the review of the components for tariff determination, the Commission is of the view that controllable items should be considered as per the level approved under the MYT Framework, unless there are justifiable reasons to revise the same. Reasons for revision of the controllable parameters would be analyzed within the framework of Regulation 9.6 of the MYT Regulations.

With regard to the uncontrollable parameters the Commission is of the view that such parameters may be revised based on the analysis and verification of the submissions made by the Petitioner and the annual performance review undertaken for the FY 2009-10.

5.2. Operations and Maintenance Expenses for FY 2010-11

Petitioner's submission

The Petitioner has estimated Rs 626.09 crores towards Operations and Maintenance expenditure for FY 2010-11. The O&M cost comprises of expenditure on employee cost, Administration and General Expenses and Repair and Maintenance expenses. The Petitioner has submitted that the estimated O&M expenses for FY 2010-11 are based on the revised estimates for FY 2009-10. The submission of the Petitioner is summarized in Table 58.

Table 58: O&M expense estimated by GETCO for FY 2010-11

(Rs in Crores)

Sr. No.	Operations & Maintenance Expenses	Approved as per MYT order for FY 2010-11	Revised Estimates as submitted by GETCO for FY 2010-11
1	Employee Cost	276.42	406.23
2	Repair & Maintenance	103.20	150.84
3	Administration & General expenses	49.38	69.02
	Total O&M	429.00	626.09



The Petitioner has stated that it has estimated the O&M expense for FY 2010-11 by escalating the employee cost by 8%, the R&M expense by 10% and A&G expense by 8%. The Petitioner has stated that these escalations have been made after accounting for the trends in the same in the previous years.

Commission's Analysis

The Commission has examined the O&M estimations made by the Petitioner for FY 2010-11. The Commission has also noted that the Petitioner has accounted the increase in the employee costs due to increase in dearness allowance, sixth pay commission hike etc. For FY 2010-11, the Commission is of the view that any escalation for the year is to be based only on the employee expenses paid for GETCO in FY 2009-10, excluding SLDC. As per the Petitioner's submission, in FY 2009-10, the employee expense for GETCO was Rs 376.13 crores and that for SLDC was Rs 4.93 crores. For FY 2010-11, the Commission permits a 6% escalation on Rs 376.13 crores of FY 2009-10 only. The employee expense allowed by the Petitioner for FY 2010-11 is Rs 398.71 crores.

For the increase in R&M costs, the Petitioner has stated that several of the assets are old requiring high level of repairs and maintenance expense. In the case of the A&G expenses, the Petitioner has estimated the higher expenses for FY 2010-11 purely on the basis of previous years' trend. The Commission is of the view that R&M expenses are of a controllable nature and permits only the MYT approved estimate of Rs 103.20 crores.

Further for A&G expenses, the Commission is of the view that since the MYT approved estimates were inclusive for SLDC estimates these need to be deducted for FY 2010-11. Therein, the Commission has from the MYT approved estimate of Rs 49.38 crores deducted the approved SLDC estimate for A&G of Rs 1.60 crores of FY 2010-11. The revised approved estimate for A&G for FY 2010-11 is Rs 47.78 crores.

Accordingly, the approved O&M expenses for FY 2010-11 are shown in the Table 59 below:

Table 59 : Approved O&M expense for FY 2010-11

(Rs in crores)

Sr. No.	Operation & Maintenance Expenses	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
1	Employee Cost	276.42	406.23	398.71
2	Repair & Maintenance	103.20	150.84	103.20
3	Administration & General Charges	47.78	69.02	47.78



	Total O&M	427.40	626.09	549.69
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5.3. ULDC charges for FY 2010-11

Petitioner's submission

ULDC charges are to be paid to Power Grid Corporation of India Limited (PGCIL) for participating in the unified load despatch and communication scheme executed by PGCIL. The Petitioner has stated that since as per the directive from the Commission, the ULDC charges are to be claimed separately in the ARR filed by SLDC and therefore are to be excluded from GETCO's ARR. Accordingly, the Petitioner has submitted that it is not claiming the ULDC charges for FY 2010-11. The ULDC charges estimated by the petitioner are summarized in Table 60.

Table 60 : ULDC expense estimated by GETCO for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
1	ULDC Charges	15.36	-

Commission's Analysis

The Commission has observed that as per its directive, separate ARR has been filed for SLDC. Accordingly, ULDC charges shall form part of the submission of SLDC. In light of this, the Commission agrees with the submission of the Petitioner to exclude the ULDC charges from the ARR for FY 2010-11 of GETCO. Accordingly the provision for ULDC charge in the ARR for FY 2010-11 is as indicated in the Table 61.

Table 61 : Revised ULDC charges for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
1	ULDC Charges	15.36	-	-

5.4. Capital expenditure, capitalisation and funding for FY 2010-11

Petitioner's Submission

The Petitioner has estimated a capital expenditure of Rs 1,975.04 crores for FY 2010-11 compared to Rs 1,435.34 crores approved under the MYT order. The details of the capital expenditure estimated by the Petitioner for FY 2010-11 are given in Table 62.



Table 62 : Capital works planned by GETCO for FY 2010-11

(Rs crores)

Particulars	Revised Estimates submitted by GETCO for FY 2010-11
New Projects	
400 kV Sub-stations	129.13
400 kV Lines	704.42
220 kV Sub-station	206.83
220 kV Lines	300.34
132 kV Lines	5.53
132 kV Sub-station	10.90
66 kV Sub-station	236.21
66 kV Lines	179.48
Bus Reactor (80 & 125 MVA)	25.43
Sub Total of New Projects	1,798.26
R&M	
Renovation and Modernization	121.78
Augmentation of sub-station/ Lines	55.00
Sub Total of R&M	176.78
Total	1,975.04

The details of the capital expenditure proposed for FY 2010-11 are attached in Annexure 1.2. In its submission, the Petitioner has considered a debt equity ratio of 70:30 for the capital expenditure planned for FY 2010-11. Break up of source of funding and capital expenditure is summarized in Table 63.

Table 63 : Capital expenditure and sources of funding estimated by GETCO for FY 2010-11

(Rs. in crores)

Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
Capital expenditure	1,435.34	1,975.04
Debt:Equity	70:30	70:30
Debt	1,004.74	1,382.53
Equity	430.60	592.51

Commission's Analysis

The Commission has examined the submission of the Petitioner with regard to capital expenditure for FY 2010-11. The Commission has observed that the capital expenditure projected by the Petitioner for FY 2010-11 of Rs 1,975 crores is higher by 38% over the capital expenditure approved under the MYT. Also, when compared to the capital expenditure proposed for FY 2009-10, that proposed for FY 2010-11 is higher by 42%.



The Commission has observed that for FY 2010-11, the Petitioner has however assumed an actual capitalization level of Rs 1,542.93 crores. The Commission has noted that the Petitioner has computed this on the basis of the assumption that 60% of the opening capital works in progress for FY 2010-11 and 40% of the proposed capital expenditure for the year would be capitalized. In addition, other expenses such as interest charges etc have been assumed to be capitalized for Rs 206.35 crores for FY 2010-11.

It must be noted here that the Petitioner is entitled to ROE and Interest for the amount equivalent to assets put to use and not on the capital expenditure estimated. The Commission is of the view that the amount of capital expenditure approved under the MYT Order should be revised based on the submission of the Petitioner. The Commission is of the view that the revised submission of the Petitioner would reflect the scenario which would be closer to the actual capital expenditure.

Given this, the Commission would consider that of the total capital expenditure which has been proposed by the Petitioner for FY 2010-11, Rs 1,542.93 would be capitalized.

In regard to the source of financing, the Commission has observed that the Petitioner has considered funding to be on the normative debt equity ratio basis of 70:30. The Commission has accepted this funding proposed by the Petitioner. Based on the above observation, the Commission approves the amount of capitalization and the source of funding as summarized in Table 64.

Table 64 : Revised capitalization and sources of financing for FY 2010-11

(Rs. in crores)

Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
Capital expenditure	1,435.34	1,975.04	1,975.04
Capitalisation	-	1,542.93	1,542.93
Debt %	70%	70%	70%
Debt	1,004.74	1,382.53	1,080.05
Equity	430.60	592.51	462.88

5.5. Depreciation for FY 2010-11

Petitioner's submission

The Petitioner has estimated depreciation charges of Rs 405.46 crores for FY 2010-11. The Petitioner has stated that the projections have been based upon the asset base as per the balance sheet for FY 2008-09 and the additions estimated for FY 2009-10. The depreciation charges projected by the petitioner are summarized in the Table 65.



Table 65 : Depreciation charges estimated by GETCO for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
1	Gross Block in Beginning of the year	6,397.61	7,226.96
2	Additions during the Year (Net)	1,109.87	1,542.93
3	Depreciation for the Year	221.09	405.46
4	Average Rate of Depreciation	3.18%	5.07%

The petitioner has further submitted that it has considered the new rate of depreciation as per the revised CERC Guidelines.

Commission's Analysis

The Commission has examined the submission of the Petitioner. The Commission has computed the opening and closing GFA for FY 2010-11 based on the closing GFA of FY 2009-10 and the capitalization for FY 2010-11 which is summarized in Table 66.

Table 66: Opening and closing GFA for FY 2010-11

(Rs. in crores)

Gross Block as on 31.03.2010	Addition to Gross Block during 2010-11	Gross Block as on 31.03.2011
7,226.96	1,542.93	8,769.89

The Commission has also noted that the rate of depreciation considered by the Petitioner is as per the CERC regulation.

The closing GFA of the FY 2009-10 is considered as opening GFA for FY 2010-11 and the depreciation rates were considered as per new rates prescribed under CERC Tariff Regulations.

It must be noted here that Clause 17 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 specifies that depreciation shall be calculated annually based on Straight Line Method at rates specified in Appendix-III of the said regulations. Provided that, the remaining depreciable value as on 31st March of the year closing after a period of twelve years from date of commercial operation shall be spread over the balance useful life of the assets.

It further specifies that in case of the existing projects, the balance depreciable value as on 1st April, 2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31st March 2009 from the gross depreciable value of the assets.



The Petitioner has calculated the depreciation by applying the new rates on the total gross assets without segregating the assets as mentioned in the regulation. The Commission has considered the depreciation as submitted by the Petitioner but hereby directs the Petitioner to submit the recomputed depreciation as per Clause 17 of CERC (Terms and Conditions of Tariff) Regulations, 2009 during the APR of FY 2010-11

Accordingly, the Commission has computed the actual depreciation expense for FY 2010-11 by employing the weighted average depreciation rate of 5.07% considered by the Petitioner. Based on this approach, the Commission approves depreciation amount of Rs. 405.52 crores for FY 2010-11. The summary for depreciation expense is outlined in Table 67.

Table 67: Approved Depreciation for FY 2010-11

(Rs. in crores)

Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
Depreciation	221.09	405.46	405.52

5.6. Advance Against Depreciation for FY 2010-11

Petitioner's submission

The Petitioner has submitted that it is considering depreciation at the rates now revised by the CERC. Accordingly, it is not considering any AAD for the FY 2010-11.

Commission's Analysis

The Commission has examined the submission of the Petitioner. The Commission has observed that the petitioner has not considered any AAD as it has considered the revised depreciation rates provided by the CERC. The Commission has observed that under the revised CERC Regulations, AAD is no longer permissible. Accordingly, the Commission approves the submission of the Petitioner.

5.7. Interest and Finance charges for FY 2010-11

Petitioner's submission

The Petitioner has estimated an amount of Rs 360.30 crores towards total interest and finance charges for FY 2010-11 which is marginally lower than Rs 362.63 crores approved under the MYT order. The details of the interest and finance charges estimated by the Petitioner for FY 2010-11 are presented in Table 68.



Table 68 : Interest and finance charges estimated by GETCO for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT Order	Revised Estimates submitted by GETCO for FY 2010-11
1	Opening Loans	3,244.86	3,141.98
2	Loan Additions during the Year	1,004.74	1,282.53
3	Repayment during the Year	363.65	314.20
4	Closing Loans	3,885.95	4,110.32
5	Average Loans	3,565.41	3,626.15
6	Interest on Loan	355.83	356.41
7	Guarantee Charges	6.80	3.88
8	Total Interest & Financial Charges	362.63	360.30
9	Weighted Average Rate of Interest on Loan	9.98%	10.50%

The opening balance of the loan amount has been revised to Rs 3,141 crores based on the closing loans for FY 2009-10 estimated by the Petitioner. The opening balance estimated by the Petitioner is different from that estimated in the MYT order. The Petitioner has assumed a normative loan addition of Rs 1,282 crores for the proposed capital funding for the year. Loan repayment has been assumed to be at 1/10th portion of the opening loan amount. The repayment for the loan in FY 2010-11 is assumed to be Rs 314.20 crores.

Commission's Analysis

The Commission has examined the interest and finance charges estimated by the Petitioner for FY 2010-11. The Commission has observed that for loan up to FY 2009-10 the Petitioner has considered the weighted average rate of interest of 10.02%. For additional loans the Petitioner has considered an interest rate of 10.50%. The weighted average rate of loan considered by the Petitioner is 10.11%.

On the basis of the capital funding approved by the Commission, the new loans for FY 2010-11 have been estimated to be at Rs 1,080 crores and the corresponding interest and finance charges have been computed as indicated in Table 69.

Table 69: Interest and finance charges computed by Commission for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Revised computed for FY 2010-11
1	Opening Loans	2,287.57
2	Loan Additions during the Year	1,080.05
3	Repayment during the Year	228.76
4	Closing Loans	3,138.86
5	Average Loans	2,713.22



6	Interest on Loan	274.31
7	Guarantee Charges	3.88
8	Total Interest & Financial Charges	278.19
	Weighted Average Rate of Interest on Loan	10.11%

The closing loan estimated by the Commission for FY 2009-10 has been assumed to be the opening loans for FY 2010-11. The addition to the loan has been on normative basis of the capitalization considered for FY 2010-11. Repayment has been considered as 1/10th of the opening loan, and the weighted average rate of 10.11% has been taken into account.

Based on the above estimation the Commission approves the interest and finance charges of Rs. 278.19 crores for FY 2010-11. The interest and finance charges approved for FY 2010-11 is summarized in Table 70.

Table 70 : Interest and finance expense approved for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
1	Interest & Finance Charges	362.63	360.30	278.19

5.8. Return on Equity for FY 2010-11

Petitioner's submission

The Petitioner has revised the estimate for return on equity on the basis of revision in closing equity for FY 2009-10 and revised capitalization for FY 2010-11. The Petitioner has considered equity addition for the year at a normative level of 30% of the capital addition during the year. Further, the petitioner has considered the rate of return on equity at 14%. The submission of the petitioner is summarized in Table 71.

Table 71 : Return on equity estimated by GETCO for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
1	Opening Equity Capital	2,504.30	2,217.59
2	Equity Additions during the Year	430.60	592.51
3	Closing Equity	2,934.90	2,810.10
4	Average Equity	2,719.60	2,513.85
5	Rate of Return on the Equity	14%	14%



Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
6	Return on Equity	380.74	351.94

Commission's Analysis

The Commission has examined the submission made by the Petitioner. The Commission has observed that the Petitioner has estimated a lower return on equity for FY 2010-11 compared to the amount approved under the MYT Order. The Commission has further computed return on equity on a normative basis using the opening equity for FY 2010-11 (equal to closing equity of FY 2009-10) and equity addition for FY 2010-11 (at 30% of approved capitalization) which is indicated in Table 72

Table 72: Return on Equity for FY 2010-11 computed by Commission

(Rs. in crores)

Particulars	Computed by Commission for FY 2010-11
Opening equity	2,021.69
Equity addition during the year	462.88
Closing equity	2,484.57
Average equity	2,253.13
Rate of Return on Equity	14%
Return on Equity	315.44

Since capital expenditure has been considered as uncontrollable, the Commission has treated return on equity as uncontrollable. The summary of return on equity approved for FY 2010-11 is provided in Table 73.

Table 73: Return on equity approved for FY 2010-11

(Rs. in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
1	Return on equity	380.74	351.94	315.44



5.9. Interest on working capital for FY 2010-11

Petitioner's submission

The Petitioner has revised the interest on working capital charges to Rs 45 crores for FY 2010-11. The Petitioner has estimated the interest on working capital by assuming one month's O&M expense for FY 2010-11 at Rs 52.17 crores, the expense on Maintenance spares at Rs 102.78 crores and has accounted for two month's receivables at Rs 284.05 crores. The interest charges projected by the Petitioner for FY 2010-11 are summarized in Table 74.

Table 74 : Interest on working capital estimated by GETCO for FY 2010-11
(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
1	O & M expenses (1 Month)	35.75	52.17
2	Maintenance Spares (1% of Cost @ 6 % Escalation)	78.92	102.78
3	Receivables (2 Months)	245.81	284.05
4	Total Working Capital	360.48	439.00
5	Rate of Interest on Working Capital	10.25%	10.25%
6	Interest on Working Capital	36.95	45.00

The Petitioner has also submitted that the interest on the working capital has been assumed at the normative rates. The petitioner has considered the interest rate at 10.25% which is based on the short term prime lending rate of the State Bank of India (SBI).

Commission's Analysis

The Commission has analysed the interest on working capital estimated by the Petitioner for FY 2010-11. The Commission is of the opinion that the interest on working capital is derived from a combination of controllable and uncontrollable parameters and hence it would be necessary to compute the same on the basis of the components which have now been revised for FY 2010-11. Accordingly, the Commission has recomputed the interest on working capital on a normative basis using the revised approved values for FY 2010-11. Details of the computation are indicated in Table 75.



Table 75: Interest on Working Capital as computed by Commission for FY 2010-11

(Rs. in crores)

Sr. No.	Particulars	Computed by Commission for FY 2010-11
1	O&M Expenses for 1 month	45.81
2	1% of GFA for maintenance spares	102.78
3	Receivables equivalent to 2 months	226.13
4	Working Capital	374.71
5	Rate of Interest on Working Capital	10.25%
	Interest on Working Capital	38.40

The Commission accordingly approves the interest on working capital based on the above computation. The summary of interest on working capital now approved for FY 2010-11 is provided in Table 76.

Table 76 : Interest on working capital approved for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
1	Interest on Working Capital	36.95	45.00	38.40

5.10. Income Tax and other taxes for FY 2010-11

Petitioner's submission

The Petitioner has estimated a total income tax expense of Rs 54.37 crores for FY 2010-11. The Petitioner has submitted that as per the GERC's Tariff Regulations, the tax paid by the petitioner on income generated from its core business would be treated as an expense. The submission made by the petitioner is summarized in Table 77.

Table 77: Income tax and other taxes estimated by GETCO for FY 2010-11

(Rs. crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
1	Income tax and other taxes	-	54.37



Commission's Analysis

The Commission has examined the submission of the Petitioner with regard to the income taxes for FY 2010-11. The Petitioner has estimated the taxes at the rate of 15.45 % on the RoE.

The Commission has therefore recomputed the income tax at 15.45% on the basis of the approved ROE for FY 2010-11. The summary of the income tax approved for FY 2010-11 is provided in Table 78.

Table 78: Income tax and other taxes approved for FY 2010-11

(Rs. crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
1	Income tax and other taxes	-	54.37	48.73

5.11. Other income**Petitioner's submission**

The Petitioner has estimated the other income for FY 2010-11 as Rs 77.83 crores. The Petitioner has stated that the income includes interest on staff loans, interest on investments, income from sale of stores etc.

Table 79 : Other income estimated by Petitioner for FY 2010-11

(Rs crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
1	Net other income	45.13	77.83

Commission's Analysis

The Commission has analyzed the other income estimated by the Petitioner. The Commission is also of the view that since other income is considered as an uncontrollable factor, the revised estimate of the petitioner is to be approved. The other income approved by the Commission for FY 2010-11 is as under in Table 80:



Table 80: Other income approved by the Commission for FY 2010-11

(Rs crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
1	Net other income	45.13	77.83	77.83

5.12. Expenses capitalized for FY 2010-11**Petitioner's submission**

The Petitioner has estimated an amount of Rs 206.35 crores expenses capitalized for FY 2010-11. The details of expenses capitalized estimated by the Petitioner for FY 2010-11 are stated in Table 83

Table 81: Expenses capitalized as estimated by GETCO for FY 2010-11

(Rs in Crores)

Sr. No.	Particulars	Approved as per MYT order	Revised estimates submitted by GETCO for FY 2010-11
1	Expenses capitalized	86.32	206.35

Commission's analysis

The Commission has noted the estimation of expenses to be capitalised estimated by the Petitioner. The Commission approves the estimation of expenses to be capitalized presented by the Petitioner for FY 2010-11. The approved estimates are indicated in the Table 84

Table 82: Expenses capitalized approved by Commission for FY 2010-11

(Rs in Crores)

Sr. No.	Particulars	Approved as per MYT order	Revised estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
	Total expenses capitalized	86.32	206.35	206.35

5.13. Incentive for Target availability**Petitioner's submission**

The Petitioner has submitted that the target availability for FY 2009-10 at 99.61% is higher than the target of 98% provided under the regulations. The Petitioner has stated that the higher transmission availability is eligible for revenue incentive which needs to be estimated as per Regulation 58 of GERC's Terms and Conditions of



Tariff, 2005. The Petitioner has therefore, claimed for the incentive for target availability levels achieved in FY 2009-10 during the ARR for FY 2010-11. Towards this, the Petitioner has claimed an incentive amount of Rs 40.47 crores.

Commission's Analysis

The Commission has examined the submission of the Petitioner. The Commission is of the view that the incentive for target availability for FY 2009-10 is to be included in the APR of FY 2009-10 and is not be carried forward to the ARR of FY 2010-11. Based on this view, the Commission has in the APR of FY 2009-10, allowed for an incentive based on the target availability levels maintained in FY 2009-10.

Further the Commission is of the view that the incentive amount for FY 2010-11 is to be based on the projected target availability levels of FY 2010-11. The Commission has noted that the Petitioner has projected a target availability level of FY 2010-11 at 99.62%. The Commission has observed that the target availability for FY 2010-11 approved under the MYT Order is 99.40%. In this regard the Commission has noted that Regulation 8.2 of the MYT Regulations provides that trajectory provided under MYT Regulations shall replace trajectories fixed under any other regulation.

Based on the approach adopted, and the method described under the GERC's Terms and Conditions, the Commission has computed the incentive for FY 2010-11 as Rs 4.95 crores.

5.14. Annual transmission charges for FY 2010-11

Petitioner's Submission

The Petitioner has estimated the Annual Transmission charges for FY 2010-11 at Rs 1,704.29 crores. Accordingly, Annual Transmission charge is summarized in Table 83.

Table 83 : ARR estimated by GETCO for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
1	Operations & Maintenance Expenses	429.00	626.09
1.1	<i>Employee Cost incl. impact on account of provisions of 6th Pay Commission for FY 2007-08 & FY 2008-09</i>	276.42	406.23
1.2	<i>Repair & Maintenance</i>	103.20	150.84
1.3	<i>Administration & General Charges</i>	47.78*	69.02
2	ULDC Charges	15.36	-
3	Depreciation	221.09	405.46
4	Advance Against Depreciation	103.40	-



Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11
5	Interest & Finance Charges	362.63	360.30
6	Interest on Working Capital	36.95	45.00
7	Return on Equity	380.74	351.94
8	Total Fixed Costs	1,547.57	1,788.78
9	Less: Expenses Capitalized	86.32	206.35
	Add: Provision for Tax		54.37
10	Total Transmission Charges	1,461.25	1,636.80
11	Less: Other Income	45.14	77.83
12	Add: Incentive for target availability	-	-
13	Revenue gap in FY 2008-09 carried forward after treating gains/losses due to controllable/un controllable factors	-	104.84
14	Aggregate Revenue Requirement	1,416.11	1,704.29

* A&G charges are considered excluding SLDC charges

Commission's Analysis

The Commission has computed the revised ARR for FY 2010-11 which is indicated in Table 84.

Table 84 : Aggregate Revenue Requirement approved for FY 2010-11

(Rs in crores)

Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
1	Operations & Maintenance Expenses	429.00	626.09	549.69
1.1	<i>Employee Cost incl. impact on account of provisions of 6th Pay Commission for FY 2007-08 & FY 2008-09</i>	276.42	406.23	398.71
1.2	<i>Repair & Maintenance</i>	103.20	150.84	103.20
1.3	<i>Administration & General Charges</i>	47.78*	69.02	47.78
2	ULDC Charges	15.36	-	0.00
3	Depreciation	221.09	405.46	405.52
4	Advance Against Depreciation	103.40	-	-
5	Interest & Finance Charges	362.63	360.30	278.19
6	Interest on Working Capital	36.95	45.00	38.40
7	Return on Equity	380.74	351.94	315.44
8	Total Fixed Costs	1,547.57	1,788.78	1587.24
9	Less: Expenses Capitalized	86.32	206.35	206.35



Sr. No.	Particulars	Approved as per MYT order for FY 2010-11	Revised Estimates submitted by GETCO for FY 2010-11	Revised Approved for FY 2010-11
	Add: Provision for Tax		54.37	48.73
10	Total Transmission Charges	1,461.25	1,636.80	1,429.63
11	Less: Other Income	45.14	77.83	77.83
12	Aggregate Revenue Requirement	1,416.11	1,599.44	1351.79
13	Add: Incentive for target availability		40.47	4.95
14	Revenue gap in FY 2008-09 carried forward after treating gains/losses due to controllable/un controllable factors		104.84	-
14	Aggregate Revenue Requirement	1,416.11	1,704.29	1,356.75

* A&G charges are considered excluding SLDC charges

5.15. Approved transmission charges for FY 2010-11

Petitioner's Submission

The Petitioner has submitted a revised transmission tariff based on the revised transmission costs estimated for FY 2010-11. The Petitioner has revised the transmission tariff to Rs 3064/MW/day for FY 2010-11. The revised transmission tariff submitted by the Petitioner is indicated in Table 85.

Table 85 : Transmission tariff estimated by GETCO for FY 2010-11

Particulars	Approved as per MYT	Revised estimates submitted by GETCO
Annual Transmission Charges (Rs in crores)	1,417.7	1704.29
Total MW Allocation	14,329	15,241
MUs Transferred at 80% PLF	100,418	106,811
Transmission Tariff (Rs/MW/day)	2,711	3,064
Transmission Tariff (Paise/unit)	14.12	15.96

Commission's Analysis

The Commission has taken note of the submissions made by the Petitioner. The Commission has further noted that the load level considered by the Petitioner for FY 2010-11 is inclusive of 2435 MW of loading from wind farm. Of this 2435 MW, the Commission has noted that, 1585 MW was the additional loading due to wind farms commissioned during the period between April 2009 and September 2009. For the remaining period of FY 2009-10, the Petitioner has estimated additional loading from



wind farm at 350 MW. Also, for FY 2010-11, the additional loading from wind farm has been envisaged to be 500 MW.

The Commission has noted that as per the earlier Regulations, wind farms were excluded from the transmission charges imposed by the Petitioner. Therefore, the load from the wind farms commissioned till September 2009, need to be excluded while estimating the tariff for FY 2010-11. The Commission as per its Order No. 1 dated 30th January 2010 for Wind tariff, decided to include the load levels only from the Wind farms commissioned during the period September 2009 to March 2010, viz 350 MW and that estimated for FY 2010-11 at 500 MW while estimating the tariff.

In view of the above the Commission approves the transmission tariff as approved under the MYT order for FY 2010-11 which is indicated in Table 86.

Table 86 : Transmission Tariff computed for FY 2010-11

Sr. No.	Particulars	Approved as per MYT	Revised estimates submitted by GETCO	Computed by Commission for FY 2010-11
1	Annual Transmission Charges (Rs in Crores)	1,417.7	1,704.29	1,356.75
2	Total MW Allocation	14,329	15,241	13,656
3	MUs Transferred at 80% PLF	100,418	106,811	95,701
4	Transmission Tariff (Rs/MW/day)	2,711	3,064	2,721.97
5	Transmission Tariff (Paise/unit)	14.12	15.96	14.18



6. Compliance of Directives

6.1. Compliance of Directives issued by the Commission

The Commission in its MYT Order dated 17th January 2009, had issued various directives. GETCO has now submitted a report on compliance of the Directives issued by the Commission. The Comments of the Commission on the submission of the Petitioner are given below:

Directive No. 1: Filing of separate ARR for SLDC

Ministry of Power, Government of India has initiated action for establishment of SLDCs as independent entities. Separate ARR for SLDC may have to be filed for 2009-10. GETCO may initiate action to compile the data for filing separate ARR petition for SLDC for 2009-10.

Compliance / Action Taken:

GETCO has stated that in compliance with the above directive actions have been taken to file a separate ARR petition for SLDC. It has stated that, a decision has been taken to file separate petition along with the filing of Performance Review Application & Tariff petition of GETCO for the FY 2009-10.

Commission's Comment: *The Commission has taken note of the submission made by the Petitioner. The Commission has observed that a separate petition has been filed for SLDC for determination of its charges for FY 2010-11*

Directive 2: Transmission Losses

GETCO to undertake a study to establish the impact on Transmission loss due to reduced drawl from the system in South Gujarat.

This directive was given in view of the reasons stated by GETCO for the increase in transmission loss during FY 2008-09. GETCO had explained that one of the reasons for increase in transmission loss during 2008-09 is due to feeding of Daman, Diu etc. loads directly from PGCIL network resulting in lower drawal from the system in South Gujarat. Also it has stated that the consumption in South Gujarat is expected to further reduce with the commissioning of SUGEN Power Plant of TPL which will feed Surat loads. The directive was given to establish the exact cause of increase in transmission loss.

Compliance / Action Taken:

GETCO has stated that the reason for its sudden increase in the Transmission losses has been explained to Hon'ble Commission on 05.11.08 and the same was communicated vide letter No. ACE(R&C/e-Urja/1351 dated.14.11.08. GETCO has stated that on commissioning of SUGEN plant of TPL the consumption in south Gujarat may further reduce resulting in increase of overall transmission loss of



GETCO system. GETCO has stated that, in line with the directive, it has undertaken a technical analysis and the details of the same have been presented to the Commission.

Commission's Comment: *The Commission has taken note of the submission made by the Petitioner. The detailed analysis of the study, and the Commission's view on the same are incorporated in Chapter 3 of this order.*

Directive 3: Intra-State ABT and Interface metering

GETCO is to report the action taken for effective implementation of the Intra-State-ABT. Further the current status of the implementation of Intra –state- ABT is to be reported.

Compliance / Action Taken:

GETCO has stated that it has complied with the directive and the key activities have been performed. GETCO has also stated that the final order on implementation of intra-state ABT is awaited.

Commission's Comment: *The Commission has taken note of the submission made by the Petitioner. The Commission has examined the outcome of a mock exercise which has been conducted in this regard. The Commission has asked the Petitioner and some other members of the state grid to resolve some of the issues relating to commercial implementations of the intra-state ABT. Feedback received from the Petitioner is being examined by the Commission and decision relating to implementation of the intra-state ABT will be taken separately.*

Directive 4: Reactive Compensation

GETCO has been directed to undertake a study on the adequacy of reactive power compensation and in this regard a report stating the results of the study should be submitted.

Compliance / Action Taken:

GETCO has stated that the issue relating to reactive power compensation has been addressed in their planning of various schemes for the eleventh five year plan (2007-12). GETCO has stated that in the Plan there is provision to provide adequate compensation in accordance with the proposed load growth. GETCO has shared details of the activities being planned in this regard by it. Also, GETCO has stated that the reactive compensation planned by it is in line with the report of WRPC committee. Further GETCO has stated that, in order to meet the requirement, following plans have been made:

Plan:

(a) To install 5 No. of 20 MVAR Capacitor banks of 132 kV: 100 MVAR



Current Status

(a) Installation work has been completed and the banks are in service: 100 MVAR

Plan:

(b) To install 11 kV capacitors: 2476 MVAR

Current Status

(b) GETCO has stated that necessary steps have been initiated for procurement of 630 MVAR and that the same would be installed before June 2010.

Plan:

(c) To install bus reactor : 455 MVAR

Current Status

(c) GETCO has stated that out of the process of procurement and installation is currently ongoing. GETCO has stated that out of the 455 MVAR bus reactors which have been planned, 100 MVAR have been installed and the procurement process for 255 MVAR is currently under process. GETCO has further submitted the following details on the same:

Sr No	Name of Sub-station	MVAR	Status/installed
1	400 kV Kasor	125	A/T. Processed
2	400 kV Soja	80	A/T. Processed
3	400 kV Kosamba	50	-
4	400 kV Varsana	50	A/T. Processed
5	400 kV Halvad	50	-
6	220 kV Anjar	25	Installed
7	220 kV Nanikhakhar	25	Installed
8	220 kV Nakhatrana	25	Installed
9	220 Panandhro	25	Installed
Total		455	100 MVAR (Installed)

Plan:

(a) To install Line Reactors (400 kV Zerda) – 200 MVAR

Current Status

(a) GETCO has stated that the procurement process is currently underway and the line reactors would be installed in FY 2010-11.



Commission's Comment: *The Commission has taken note of the submission made by the Petitioner. The Commission observes that the pace of installation of 11 kV capacitors is slow. The Commission therefore directs the Petitioner to expedite this work and to submit a status report on the work in progress (quarterly).*

Directive 5:

GETCO has been directed to submit all financial figures in the petitions filed for the future ARR and APRs in units of rupee crores.

Compliance / Action Taken:

GETCO has stated that the directive of the Commission has been noted and it would henceforth submit all the financial statements in unit of rupee crores.

Commission's Comment: *The Commission has taken note of the submission made by the Petitioner.*

New Directive

The Petitioner has calculated the depreciation by applying the new rates on gross assets without segregating the assets as mentioned in Clause- 17 of CERC (Terms and Conditions of Tariff) Regulations, 2009. The Petitioner is directed to submit the recomputed depreciation as per clause 17 of said Regulations during the truing up of FY 2009-10 and for the APR for FY 2010-11.



COMMISSION'S ORDER

The Commission approves the revision in the components of transmission charges for FY 2010-11 as discussed in this Order and the Transmission tariff, as shown in the tables below:

(Rs crores)

Sr. No.	Particulars	Approved for FY 2010-11
1	Operations & Maintenance Expenses	549.69
1.1	<i>Employee Cost incl. impact on account of provisions of 6th Pay Commission for FY 2007-08 & FY 2008-09</i>	398.71
1.2	<i>Repair & Maintenance</i>	103.20
1.3	<i>Administration & General Charges</i>	47.78
2	ULDC Charges	0.00
3	Depreciation	405.52
4	Advance Against Depreciation	-
5	Interest & Finance Charges	278.19
6	Interest on Working Capital	38.40
7	Return on Equity	315.44
8	Total Fixed Costs	1587.24
9	Less: Expenses Capitalized	206.35
	Add: Provision for Tax	48.73
10	Total Transmission Charges	1,429.63
11	Less: Other Income	77.83
12	Aggregate Revenue Requirement	1,351.79
13	Add: Incentive for target availability	4.95
14	Aggregate Revenue Requirement	1,356.75

Transmission Tariff

Sr. No.	Particulars	Unit	FY 2010-11
1	Transmission Tariff	Rs/MW/day	2,720*

* Tariff charge has been rounded off to the nearest ten

The order shall come into force with effect from 1st April 2010.

DR. P. K .MISHRA

Chairman

Date: 31st March 2010

Ahmedabad

Shri PRAVINBHAI PATEL

Member





Annexure 1.1**ARR for FY 2008-09 based on audited accounts of FY 2008-09 submitted by the Petitioner**

(Rs in Crores)

Sr. No.	Particulars	FY 2008-09 MYT Approved	Provisionally considered for APR FY 2008-09	APR as per audited accounts of FY 2008-09
1	Operations & Maintenance Expenses	428.93	551.07	544.70
1.1	<i>Employee Cost incl. impact on account of provisions of 6th Pay Commission for FY 2007-08 & FY 2008-09</i>	291.23	371.44	371.44
1.2	<i>Repair & Maintenance</i>	91.85	132.27	125.89
1.3	<i>Administration & General Charges</i>	45.85	47.37	47.37
2	ULDC Charges	15.36	6.38	6.38
3	Depreciation	179.02	189.02	185.46
4	Advance Against Depreciation	33.84	13.25	-
5	Interest & Finance Charges	219.07	215.43	239.67
6	Interest on Working Capital	27.78	24.23	29.38
7	Return on Equity	263.36	231.07	245.70
8	Total Fixed Costs	1,167.36	1,230.46	1,251.29
9	Less: Expenses Capitalized	86.32	99.77	130.06
10	Total Transmission Charges	1,081.04	1,130.68	1,121.24
11	Less: Other Income	45.01	78.06	78.06
12	Aggregate Revenue Requirement	1,036.03	1,052.62	1,043.17



Annexure 1.2

Details of Proposed CAPEX for FY 2010-11

Sl. No.	Name of Sub-station and Transmission line	Work involved	Estimated cost (Rs in crores)	Proposed Capex for FY 2010-11 (Rs in crores)
A	66/220/400 kV Sub-stations			
1	66 S/S & associated lines	66/11KV s/s with 10 MVA X'mer; FB-1 & X'mer Bay-1	906.15	229.41
		66KV associated line	379.19	119.62
		Total : 1	1285.34	349.03
2	220KV Kangasiyali s/s	220/66KV s/s with 2x100 MVA X'mer; 220KV FB-2, 220KV BC bay-1, 220KV TBC - 1, 66KV FB-5, 66KVb.c. Bay-1	35.16	18.97
	220KV LILO of Gondal - Rajkot at Kangasiyali (One ckt.)	220KV line (D/C)	4.94	2.66
	66KV line (D/C)	66KV line (D/C)	0.48	0.26
		Total : 2	40.58	21.89
3	220KV Shapur (Junagadh) s/s	220/66KV s/s with 2x100 MVA X'mer; 220KV FB-2, 220KV BC bay-1, 220KV TBC - 1, 66KV FB - 14	38.39	16.91
	220KV LILO of Jetpur - Keshod at Shapur (One Ckt.)	220KV line (D/C)	0.84	0.37
	66KV line (D/C) - Panther	66KV line (D/C) - Panther (T)	11.05	4.86
		Total : 3	50.28	22.15
4	220KV Lunawada s/s	220/66KV s/s with 2x100 MVA X'mer; 220KV FB-2	35.89	8.00
	LILO of Godhra – Kadana line at 220KV Lunawad	220KV line (D/C) (2.5)	1.05	0.25
	66KV FB - 4 Nos. (2 nos. at Mota Khanpur, 1 No. at Malpur, 1 no. at Virpur)	66KV FB - 4	1.11	0.50
	66KV line (s/c) - Panther (HF)	S/C	12.47	2.00
	66KV line (D/C) - Dog	D/C	0.99	0.43
		Total : 4	51.51	11.18
5	400KV Halvad s/s	400/220KV s/s with 2x315 MVA X'mer, 400KV FB - 6, 220KV FB - 6	98.18	40.00
	400KV D/C Vadavi-Halvad line	400KV line (D/C) (120)	125.30	37.59
	400KV FB - 2 Nos. at	400KV FB	9.15	0.00



	Vadavi			
	400KV s/c Adani-Hadala LILO at Halvad	400KV line (D/C) (55)	57.43	17.22
	220KV D/C Dhrangadhra - Halvad LILO at 400KV Halvad	220KV line (D/C) (5)	2.10	0.70
	220KV S/C Choraniya-Gondal LILO at 400KV Halvad	220KV line (D/C) (50)	21.00	8.00
		Total : 5	313.16	103.52
B	Evacuation Schemes			
6	220KV Kosamba-Mobha (D/C)	220KV line (D/C) (87.6)	35.68	10.73
	220KV Kosamba - Zagadia (D/C)	220KV line (D/C)	16.47	9.25
		Total : 6	87.12	19.98
7	220KV LILO D/C Jamnagar - Jetpur at Sikka	220KV line (2xD/C)(59.8+ 57.2)	47.82	19.21
		Total : 7	47.82	19.21
8	400 KV Kosamba s/s	400/220KV s/s with 315 MVA X'mer, 400KV FB-5, CVT Bay-2, 400KV Reacor -2, 220KV FB-10, B/C Bay-1, B/T Bay-1	82.80	30.19
	400KV Ukai - Kosamba	400KV S/C on D/C tower	61.11	16.58
	400KV Kosamba - Choraniya	400KV line (D/C)	265.75	90.00
		Total : 8	449.84	136.76
9	400KV Varsana - Hadala (With Pile Fdn) (Actual cost)	400KV line (D/C)	153.28	36.14
	400KV Varsana s/s	400/220KV s/s with 2x315 MVA Trans., 400KV FB -2, CVT bay-2, 400KV Bus Reactor - 1	64.71	29.15
		Total : A	226.57	65.29
	220KV D/C Varsana - Morbi	220KV line (D/C)	44.51	4.45
	220KV FB - 2 Nos. each at Varsana and Morbi	220KV FB	6.36	2.80
		Total : B	84.47	7.25
	220KV D/C Hadala - Halvad	220KV line (D/C) (80.8)	33.94	14.80
	220KV FB - 2 Nos. at Hadala & 2 Nos. at Halvad	220KV FB	6.36	2.80
		Total : C	40.29	17.59
	BID - I	Total : 9 (A to C)	351.33	90.13
10	400KV Adani - Zerda line -2	400KV line (D/C)	338.02	135.20



	400KV FB - 4 Nos. at Zerda	400KV FB	18.18	6.44
	BID - II	Total : 10	356.20	141.65
11	400KV Essar-Hadala line	400KV line (1xD/C)	102.94	46.37
	400KV FB - 4 Nos. at Hadala	400KV FB	17.89	8.06
		Total : 11	120.83	54.43
12	220KV GSEG, Hazira - Kosamba	220KV line (D/C)	28.75	12.95
	220KV GSEG, Hazira - Mota	220KV line (D/C)	24.64	11.10
	220KV FB - 2 at Kosamba & 2 at Mota	220KV FB - 4 Nos.	6.27	5.60
		Total : 12	59.66	29.65
13	220KV Pipavav - Dhokadva	220KV line (D/C)	20.54	9.25
	220KV Mahuva - Palitana	220KV line (D/C)	20.54	9.25
	220KV LILO of Savarkundla - Mahuva at Pipavav (Both ckt)	220KV line (2 x D/C)	28.75	12.95
	220KV FB (2-Dhokadva, 2-Palitana, 2-Mahuva)	220KV FB - 6 Nos.	9.35	5.60
		Total : 13	79.17	37.05
C	400KV lines			
14a	400KV Adani - Zerda line -1	400KV D/C line	338.02	101.40
14b	400KV Essar-Hadala line - 2	400KV D/C line	118.46	1.18
		Total : 14	456.48	102.58
D	Power Transformer Augmentation			
15	220/66 KV, Trans. along with Bay B.R. No. 36.11/391 dtd. 30.11.06	Total : 15	337.92	70.00
E	Installation of Capacitors and Reactors			
16	Shunt Capacitor	Total : 16	29.62	5.78
F	System Strengthening and Upgradation works			
17	LILO of 220KV D/C Halvad - Morbi at 400KV Bhachau (PGCIL) s/s (Multi Ckt.)	220KV line (2xD/C) (M.C.)	82.17	36.20
	220KV D/C Pirana - Bhat line	220KV line (D/C) (40)	16.80	7.40
	220KV FB - 2 Nos. at Bhat	220KV FB	3.18	1.40
	220KV D/C Tharad – Deodar line	220KV line (D/C) (60)	25.20	11.10
	220KV D/C Tharad - Thavar (Dhanera) line	220KV line (D/C) (50)	21.00	9.25



	220KV FB – 4 Nos. at Tharad, 2 Nos. at Thavar, 2 Nos. at Deodar	220KV FB	12.71	5.60
	220KV D/C Nakhatrana - Varsana lines	220KV line (90)	37.80	16.65
	220KV FB - 2 Nos. each at Varsana & Nakhatrana	220KV FB	6.26	140.00
	220KV Kheralu - Mathasur lines	220KV line (60)	25.20	11.10
	220KV FB - 4 Nos. (2 Nos. each at Kheralu and Mathasur)	220KV FB	6.26	1.40
	220KV Ukai - Vav - Mota line (D/C) (Strengthening)	220KV line (71)	19.34	8.52
	220KV Nanikhakhar - Varsana - Chitrod lines (D/C) (Strengthening)	220KV line (145)	39.50	10.00
		Total : 17	302.32	120.02
G	City Development Plan			
18	Bhavnagar		37.07	11.00
	Jamnagar		39.37	11.00
	Ahmedabad		2.59	0.70
	Baroda		24.30	7.00
	Rajkot		2.13	0.60
		Total : 18	105.46	30.30
	Total : (1 to 18)			1365.34
H	Additional Capex			
H(A)	400 KV, 220 KV and 66 KV sub-stations and lines:			
19	400/220/66 KV Kalavad s/s	220/66 KV, 1 x 100 MVA Xmer, 66 KV FB - 6	9.76	4.30
	220 KV D/C Kalavad - Kangasiali line	220 KV line (D/C) (80 RKM)	50.85	11.20
	220KV FB - 2 Nos. at Kangasiali	220 KV FB	3.18	0.00
	66 KV D/C interconnection lines and bays for Kalavad sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	2.20
		66 KV FB - 6 Nos.	2.38	0.50
		Total : 19	129.06	18.20
20	220/132/66 KV Jasdan s/s Dist:Rajkot	220/66 KV s/s with 1x100 MVA X'mer; 220 KV FB-2, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6	28.26	3.00
		220/132 KV, 1 x 100 MVA X'mer & 2 Nos. 132 KV FB	10.78	0.00
	220 KV D/C Amreli - Jasdan line	220 KV line (D/C) (55 RKM)	34.96	0.00



	LILO of 132 KV S/C Jasdan - Gondal line at 220 KV Jasdan sub-station	132 KV line (D/C) (10 RKM)	2.84	0.62
	220 KV FB - 2 Nos. at Amreli	220 KV FB - 2 Nos.	3.18	1.00
	66 KV D/C interconnection lines and bays for Jasdan sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	2.20
		66 KV FB - 6 Nos.	2.38	1.05
		Total : 20	92.39	7.87
21	220/132/66 KV Chotila sub-station, Dist: Surendranagar	220/66 KV s/s with 1x100 MVA X'mer; 220 KV FB-4, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6	31.44	6.00
		220/132 KV, 1 x 100 MVA X'mer & 2 Nos. 132 KV FB	10.78	2.00
	220 KV D/C Halvad (400 KV) - Chotila line	220 KV line (D/C) (45 RKM)	28.60	5.60
	LILO of 132 KV S/C Wankaner - Limdi line at 220 KV Chotila sub-station	132 KV line (D/C) (15 RKM)	4.26	0.90
	220 KV FB - 2 Nos. at Halvad (400 KV) for Chotila S/s	220 KV FB - 2 Nos.	3.18	0.00
	66 KV D/C interconnection lines and bays for Chotila sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	0.00
		66 KV FB - 6 Nos.	2.38	0.00
		Total : 21	90.63	14.50
22	132/66 KV Bhomiavadar sub-station Dist: Porbandar (Upgradation from 66KV)	132/66 KV sub-station with 2 x 50 MVA X'mer; 132 KV FB - 2 Nos., 66 KV FB - 5 Nos.	12.54	5.52
	LILO of 132 KV S/C Sikka - Ranavav line at Bhomiavadar sub-station	132 KV line (D/C) (5 RKM)	1.42	0.62
	66 KV D/C interconnection lines and bays for Bhomiavadar sub-station	66KV line (D/C-Panther) (20 RKM)	4.99	2.20
		66 KV FB - 4 Nos.	1.59	0.70
		Total : 22	20.54	9.05
23	220/66 KV Bhachau s/s Dist Kutch.	220/66 KV s/s with 1x100 MVA X'mer; 220 KV FB-4, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6	28.60	6.00
	220 KV D/C Varsana - Bhachau line	220 KV line (D/C) (30 RKM)	19.07	4.20



	220 KV D/C Bhachau - Radhanpur line	220 KV line (D/C) (170 RKM)	108.05	21.60
	220 KV FB - 2 Nos. each at Varsana and Radhanpur sub-stations	220 KV FB - 4 Nos.	6.36	1.20
	66 KV D/C interconnection lines and bays for Bhachau sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	2.0
		66 KV FB - 6 Nos.	2.38	1.05
		Total : 23	174.45	36.05
24	220/66 KV Mokha s/s Dist: Kutch.	220/66 KV s/s with 1x100 MVA X'mer; 220 KV FB-2, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6	25.42	7.50
	220 KV D/C Varsana - Mokha line	220 KV line (D/C) (55 RKM)	34.96	10.00
	220 KV FB - 2 Nos. at Varsana	220 KV FB - 2 Nos.	3.18	0.90
	66 KV D/C interconnection lines and bays for Mokha sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	3.00
		66 KV FB - 6 Nos.	2.38	0.60
		Total : 24	75.93	22.00
25	220 KV Suva sub-station near Dahej, Dist: Bharuch	220/66 KV s/s with 1x100 MVA X'mer; 220 KV FB-2, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6	25.42	7.50
	LILO of one circuit of 220 KV D/C Kosamba - Mobha line at Suva sub-station	220 KV line (D/C) (30 RKM)	12.60	3.60
	66 KV D/C interconnection lines and bays for Suva sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	3.00
		66 KV FB - 6 Nos.	2.38	0.60
		Total : 25	50.39	14.70
26	220 KV sub-station Bhestan, Dist: Surat	220/66 KV s/s with 1x100 MVA X'mer; 220 KV FB-2, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6	25.42	7.50
	LILO of 220 KV S/C Navsari - Vav line at proposed sub-station near Bhestan	220 KV line (D/C) (25 RKM)	10.50	3.00
	66 KV D/C interconnection lines and bays for Bhestan sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	3.00
		66 KV FB - 6 Nos.	2.38	0.60
		Total : 26	48.29	14.10



27	220/66 KV Atul s/s Dist: Valsad (Upgradation from 132 KV)	220/66 KV s/s with 1x100 MVA X'mer; 220 KV FB-2, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6	25.42	7.50
	LILO of 220 KV S/C Navsari - Bhilad line at Atul	220 KV line (D/C) (30 RKM)	12.60	3.00
	66 KV D/C interconnection lines and bays for Atul sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	2.20
		66 KV FB - 6 Nos.	2.38	0.60
		Total : 27	50.39	13.30
28	220/66 KV Jarod s/s Dist: Vadodara	220/66 KV s/s with 1x100 MVA X'mer; 220 KV FB-4, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6	28.60	6.00
	Termination of one D/C line of 220 KV 2 x D/C Achhalia - Jambuva lines at Jarod	220 KV line (D/C) (30 RKM)	12.60	2.00
	LILO of one circuit of 220 KV D/C Wanakbori - Asoj line at Jarod	220 KV line (D/C) (10 RKM)	4.20	0.00
	66 KV D/C interconnection lines and bays for Jarod sub-station	66KV line (D/C-Panther) (40 RKM)	9.99	2.20
		66 KV FB - 6 Nos.	2.38	0.60
		Total : 28	57.77	10.80
H(B)	New ICTs in already approved sub-station:			
29	220/132 KV, 1 x 100 MVA ICT at Botad	220/132 KV, 1 x 100 MVA X'mer & 4 Nos. 132 KV FB	12.49	5.50
	LILO of 132 KV S/C Barwala - Vallabhipur line at Botad	132 KV line (D/C) (25 RKM)	7.09	3.12
	LILO of 132 KV S/C Dhandhuka - Paliad line at Botad	132 KV line (D/C) (25 RKM)	7.09	3.12
		Total : 29	26.67	11.75
30	220/132 KV, 1 x 100 MVA ICT at Shapur	220/132 KV, 1 x 100 MVA X'mer & 2 Nos. 132 KV FB	10.78	4.75
	LILO of 132 KV S/C Junagadh - Dhoraji line at Shapur	132 KV line (D/C) (20 RKM)	5.68	2.50
		Total : 30	16.46	7.25
H(C)	Transmission lines: B.R. No. 59.11/878 dtd. 23.10.09			
31	400 KV D/C Amreli - Kasor line	400 KV line (D/C) (200 RKM)	478.97	143.69
32	400 KV D/C Varsana - Halvad line	400 KV line (D/C) (110 RKM)	263.43	79.03



33	400 KV FB - 2 Nos. each at Amreli, Kasor, Varsana & Halvad sub-stations	400 KV FB - 8 Nos.	36.59	10.97
		Total : 31, 32 & 33	779.00	233.69
H(D)	Shunt Capacitors: B.R. No. 59.11/878 dtd. 23.10.09			
34	66 KV Capacitor bank	200 MVAR	7.26	3.20
35	11 KV Capacitor bank	700 MVAR	37.34	16.45
		Total : 34 & 35	44.61	19.65
	Total cost (1 to 35):		1656.59	1798.26
36	R & M Works	Total : 36	839.86	176.78
	Grand total CAPEX (1 to 36):			1975.04

