

JHARKHAND STATE ELECTRICITY BOARD



PETITION FOR FILING OF MULTI YEAR TARIFF (“MYT”) FOR CONTROL PERIOD FY 2013-14 TO FY 2015-16

FOR TRANSMISSION FUNCTION

Submitted to



JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION,
Ranchi

Submitted By

**State Transmission Utility and Licensee
Jharkhand State Electricity Board
Dhurwa, HEC, Ranchi**



BEFORE THE JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION, RANCHI

Filing No.....

Case No.....

IN THE MATTER OF: Filing of the Petition for True-up for FY 2011-12, Annual Performance Review (APR) for FY 2012-13, Multi-Year Tariff petition (MYT) for control period FY 2013-14 to FY 2015-16 under Section 45, 46, 61, 62 and 86 of the Electricity Act, 2003 and as per the regulations of Jharkhand State Electricity Regulatory Commission (JSERC) (Terms And Conditions For Transmission Tariff) Regulation, 2010.

AND

IN THE MATTER OF: STATE TRANSMISSION UTILITY OF THE BOARD (hereinafter referred to as "JSEB" or "THE BOARD" which shall mean for the purpose of this petition the Licensee), having its registered office at DHURWA, HEC, RANCHI

The Petitioner respectfully submits as under: -

1. Jharkhand State Electricity Board (hereinafter referred to as the "Petitioner" or "JSEB" or "Board" was constituted on March 10, 2001 under Section 5 of the Electricity (Supply) Act, 1948 as a result of the bifurcation of the erstwhile State of Bihar. Before that, the Bihar State Electricity Board (BSEB) was the predominant entity entrusted with the task of generating, transmitting and supplying power in the State. The Board has been engaged in electricity generation, transmission, distribution and related activities in the state of Jharkhand. Presently, the Board is functioning as State Transmission Utility (STU) and Distribution Licensee
 2. Pursuant to the enactment of the Electricity Act, 2003, JSEB is required to submit its Aggregate Revenue Requirement (ARR) for control period and Tariff Petitions as per procedures outlined in section 61, 62 and 64, of Electricity Act 2003, and the governing regulations thereof.
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3. The present petition is filed with the Hon'ble Commission for true-up of Aggregate Revenue Requirement (ARR) for the FY 2011-12; Review of the revised estimated ARR for FY 2012-13; approval of the projected ARR for Control period FY 2014-2016 as per the Electricity Act, 2003 and as per the provisions of the regulations issued by the Hon'ble Jharkhand State Electricity Regulatory Commission (JSERC) (Terms and Conditions For Transmission Tariff) Regulations, 2010, for the area under its operation.
4. JSEB along with this petition is submitting the regulatory formats with data & information to an extent applicable and would make available any further information/ additional data required by the Hon'ble Commission during the course of MYT & tariff determination process.

Prayers to the Commission:

The petitioner respectfully prays that the Hon'ble Commission may:

- Examine the proposal submitted by the petitioner in the enclosed petition for a justified dispensation.
 - Pass suitable orders with respect of the ARR for each year of the Control Period (FY 2014, FY 2015, FY 2016) amounting to Rs. **339.99** Crs, Rs. **529.13** Crs and Rs. **737.45** Crs along with the relevant financial parameters proposed in the petition by JSEB.
 - Consider the revised values/ figures submitted by JSEB in **(MYT Petition)** for each year of the Control Period.
 - Pass suitable orders with respect to the true-up for FY 2011-12 and APR for FY 2012-13.
 - JSEB may also be permitted to propose suitable changes to the respective ARR, prior to the final approval by the Hon'ble Commission. JSEB believes that such an approach would go a long way towards providing a fair treatment to all the stakeholders and may eliminate the need for a review or clarification.
 - Condone the delay in filing of the MYT Petition, if any and requests Hon'ble Commission to accept the petition for processing;
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- Condone any inadvertent omissions/errors/shortcomings and permit JSEB to add/change/modify/alter this filing and make further submissions as may be required at a future date.

- Pass such Order, as the Hon'ble Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.

Jharkhand State Electricity Board
Petitioner

Ranchi

Dated: _____ 2013



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Chapter 1. Introduction

1.1 Background

- 1.1.1 Jharkhand State Electricity Board (hereinafter referred to as the “Petitioner” or “JSEB” or “Board” was constituted on March 10, 2001 under Section 5 of the Electricity (Supply) Act, 1948 as a result of the bifurcation of the erstwhile State of Bihar. Before that, the Bihar State Electricity Board (BSEB) was the predominant entity entrusted with the task of generating, transmitting and supplying power in the State. The Board has been engaged in electricity generation, transmission, distribution and related activities in the state of Jharkhand. Presently, the Board is functioning as State Transmission Utility (STU) and Distribution Licensee
- 1.1.2 As a State Transmission Utility (STU), JSEB caters to the requirements of the Licensee for transmitting power from the state owned generation stations and the power purchased from other external sources into the distribution network. In the absence of any transmission supply agreement and exact allocation of capacity to the distribution function, the revenue recoverable from the distribution function can be determined based on the total ARR of the State Transmission Utility. The revenue recoverable by the transmission function is computed on the basis of different cost for transmission function.
- 1.1.3 The Hon’ble Commission in November 2010 has issued JSERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2010 (hereinafter referred as JSERC Tariff Regulations 2010) which are applicable for Transition Period (FY 2011-12 and FY 2012-13) and Control Period (FY 2013-14 to FY 2015-16).
- 1.1.4 As per **Clause 6.3** of the Tariff Regulations 2010, the MYT Framework shall be based upon Business Plan of the State Transmission Utility as submitted to Commission for approval. In line with the same, JSEB is filing its MYT and Tariff Petition for the Control Period (FY 2014 – FY 2016) for consideration of the Hon’ble Commission in the formats laid down for providing information relating to past, current and future performance.
- 1.1.5 JSEB filed its previous petition in Dec 2011 for approval of the Annual Revenue Requirement (ARR) for the FY 2012-13. The Hon’ble Commission issued an order on the same in August 2012, approving the Truing up for FY 2010-11, APR of FY 2011-12 and ARR of FY 2012-13.



- 1.1.6 JSEB has submitted the Business Plan for the Control Period to the Hon'ble Commission in Oct 2012. It is submitted that the premise of MYT Petition as per JSERC Tariff Regulations 2010 is based on the Business Plan already submitted.
- 1.1.7 JSEB has filed the present petition for approval of the Aggregate Revenue Requirement (ARR) for each year of the control period. The Petition also includes True-up of the ARR for FY 2011-12 based upon the provisional annual accounts, as well as Review of the performance for FY 2012-13.



Chapter 2. Overall approach for present filing

2.1 Present Approach:

2.1.1 The Commission in November 2010 had notified JSERC Tariff Regulations 2010 which is also applicable for Control period from 1st April 2013 to 31st March 2016.

2.1.2 As per **Clause 6.3** of the Tariff Regulations 2010, the MYT Framework shall be based upon Business Plan of the State Transmission Utility as submitted to Commission for approval. In line with the same, JSEB is filing its MYT and Tariff Petition for the Control Period (FY 2014 – FY 2016) for consideration of the Hon'ble Commission in the formats laid down for providing information relating to past, current and future performance

2.1.3 In line with the above Business Plan submission, JSEB is filing its Aggregate Revenue Requirement (ARR) for the Control Period (FY 2014- FY 2016) for consideration of the Hon'ble Commission.

2.1.4 However, it is pertinent to note that at the time of submission of the Business Plan the various parameters were projected on the basis of the corresponding performance over the previous years as the accounts for the year FY 2011-12 were under compilation at the time of submission. However, as on this date of filing, the Provisional Accounts are available; hence the true up for FY 2011-12 is based on the Provisional Accounts. Consequently, the figures submitted in this current petition shall differ from that submitted in the Business Plan.

2.2 Data/Information for ARR

2.2.1 This petition contains the truing-up of the ARR of FY 2011-12 figures of which are based upon the Provisional Annual Accounts. The APR of FY 2012-13 is based upon the projections over the previous year data and actual available information.



2.3 Element Wise Approach for Transmission Function for True-up for FY 2011-12

Parameters	Approach for True-up
A&G Expense	i) The actual expense as evident from Trial Balance of provisional accounts for FY 2011-12. <i>Add-</i> ii) Common costs which have been allocated based on the %age of actual A&G expense for Transmission function over the total A&G for all functions
R&M Expense	i) The actual expense as evident from Trial Balance of provisional accounts for FY 2011-12. <i>Add-</i> ii) Common costs which have been allocated based on the %age of actual R&M expense for Transmission function over the total R&M for all functions
Employee Expense	i) The actual expense as evident from Trial Balance of provisional accounts for FY 2011-12. <i>Add-</i> ii) Common costs which have been allocated based on the %age of actual Employee expense for Transmission function over the total Employee Expenses for all functions
Interest on Loan	i) The actual expense as evident from Trial Balance of provisional accounts for FY 2011-12. <i>Add-</i> ii) Common costs which have been allocated based on the %age of actual Interest & Finance Charges for Transmission function over the total Interest & Finance Charges for all functions
ROE	As per Clause 7.10, 7.11 & 7.12 of Transmission Tariff Regulations 2010
IWC	As per Clause 7.30, 7.31 & 7.32 of Transmission Tariff Regulations 2010

2.4 Element Wise Approach for Transmission Function for Annual Performance Review for FY 2012-13

Parameters	Approach for APR
A&G Expense	Escalated by Inflation Factor of 8.64%
R&M Expense	In Proportion of the Opening GFA for the Transmission function
Employee Expense	Escalated by Inflation Factor of 8.64%
Depreciation	Average Depreciation rate for Last 5 years applied on closing GFA in each asset class.
Interest on Loan	Based on actual existing and new loans.



ROE	As per Clause 7.10, 7.11 & 7.12 of Transmission Tariff Regulations 2010
IWC	As per Clause 7.30, 7.31 and 7.32 of Transmission Tariff Regulations 2010

2.5 Element Wise Approach for Transmission Function for Control Period

Parameters	Approach for Control Period
A&G Expense	Escalated by Inflation Factor of 8.64% over base year
R&M Expense	In Proportion of the Opening GFA for the Transmission function
Employee Expense	Escalated by Inflation Factor of 8.64% over base year
Depreciation	Average Depreciation rate for Last 5 years applied on closing GFA in each asset class.
Interest on Loan	Based on actual new and existing loans.
ROE	As per Clause 7.10, 7.11 & 7.12 of Transmission Tariff Regulations 2010
IWC	As per Clause 7.30, 7.31 and 7.32 of Transmission Tariff Regulations 2010



Chapter 3. Truing up for FY 2011-12

3.1 Operation and Maintenance Expenses

- 3.1.1 The Operation and Maintenance (O&M) Expenses includes Employee Cost, R&M Expenses and A&G Expenses.
- 3.1.2 In the previous tariff order Commission had approved Rs.**58.38** Cr for FY 2011-12.
- 3.1.3 However, the actual O&M expenses for Transmission function for JSEB for FY 2011-12 now compute at Rs. **42.15** Crs.
- 3.1.4 Further, the Operation and Maintenance (O&M) Expenses have been discussed in detail in the subsequent paragraphs for True-up exercise;

3.2 Employee Expenses

- 3.2.1 The **Employee Expenses** for FY 2011-12 in previous tariff order were approved by the Commission by increasing the actual employee cost (excluding the amount of arrears paid out on account of wage arrears and terminal benefits) for FY 2010-11 by weighted average inflation rate of 8.40% (i.e. weighted average of WPI & CPI during past 5 years in ratio of 80:20, respectively).
- 3.2.2 The Commission had then added the projected payment to be made on account of VI Pay Commission arrears to the projected employee cost for FY 2011-12 and the actual cost incurred towards terminal benefits during FY 2010-11 to arrive at gross employee cost for FY 2011-12 for JSEB as whole subject to final true up on the basis of audited annual accounts.
- 3.2.3 The total employee cost was then **disaggregated** between Generation (thermal & hydel), Transmission and Distribution functions of JSEB in the **ratio** of **actual number of employees** during FY 2010-11.
- 3.2.4 Accordingly, the Commission had approved Rs. **43.33** Cr as employee cost for Transmission function of JSEB for FY 2011-12.
- 3.2.5 The actual employee expenses of the petitioner are divided as per **Clause 2.3** of this petition.



3.2.6 Thus, the actual employee cost for **Transmission function** of JSEB for FY 2011-12 computes at Rs. **28.57** Crs.

3.2.7 Therefore, the Hon'ble Commission is requested to approve the same.

3.3 A&G Expenses

3.3.1 The **A&G Expenses** for FY 2011-12 in previous tariff order were approved by the Commission by escalating the actual A&G cost approved for FY 2010-11 by **8.40%** p.a. (i.e. weighted average of WPI & CPI during past 5 years in ratio of 80:20, respectively) subject to final true up based on audited annual accounts.

3.3.2 Accordingly, the Commission had approved Rs. **5.43** Cr as A&G cost for Transmission function of JSEB for FY 2011-12.

3.3.3 The actual A&G expenses of the petitioner are divided as per **Clause 2.3** of this petition.

3.3.4 Thus, the actual A&G cost for **Transmission function** of JSEB for FY 2011-12 computes at Rs. **3.46** Crs.

3.3.5 Therefore, the Hon'ble Commission is requested to approve the same.

3.4 R&M Expenses

3.4.1 The **R&M Expenses** for FY 2011-12 in previous tariff order were approved by the Commission by considering ratio of actual R&M cost incurred during FY 2010-11 to the opening GFA- (**2.22%**). This ratio was then multiplied with the approved opening GFA for FY 2011-12 to arrive at **R&M** cost for **Transmission function** of JSEB for FY 2011-12;

3.4.2 Accordingly, the Commission had approved **Rs. 9.62 Cr** as **R&M** cost for Transmission function of JSEB for FY 2011-12.

3.4.3 The actual R&M expense of the petitioner are divided as per **Clause 2.3** of this petition.

3.4.4 Thus, the actual **R&M** cost for **Transmission function** of JSEB for FY 2011-12 computes at Rs. **10.11** Crs.



3.5 Total O&M Expenses

3.5.1 The Hon'ble Commission is requested to approve the actual **O&M** cost for Transmission function of JSEB for FY 2011-12 at Rs. **42.15** Crs as shown in the table below:

Table 1: Actual O&M Expenses for Transmission function of JSEB for FY 2011-12

O&M Expenses	Previous Petition Submission for FY 2011-12	Approved in the last Tariff Order	Provisional-FY 2011-12
A&G Expenses	5.46	5.43	3.46
R&M Expenses	20.34	9.62	10.11
Employee Expenses	57.61	43.33	28.57
Total	83.41	58.38	42.15

3.6 Capital Work in Progress, Capital Expenditure

3.6.1 JSEB since its formation in 2001 has undertaken various transmission network capacity addition, augmentation and improvement projects for achieving its objective of making availability and reliability of power uniform across the State.

3.6.2 In this section, the STU has provided the Actual outlay of Actual Capital Expenditure for FY 2011-12

Table 2: Actual Capital Expenditure for FY 2011-12

Particulars	Provisional-FY 2011-12
Capital Works in Progress (CWIP)	
Opening CWIP	334.70
Add: Capex during year	61.80
Total CWIP	396.50
Less: Trfd to GFA	60.17
Closing CWIP	336.33
Gross Fixed Assets (GFA)	
Opening GFA	433.89
Add: Trfd from CWIP	60.17
Less: Deductions	1.50
Closing GFA	492.56

3.6.3 In the Tariff order for FY 2012-13, the Commission had approved the capital expenditure at Rs. **334.46** Cr, for Transmission Business for FY 2011-12.



3.6.4 However, the capitalisation for FY 2011-12 was approved at Rs. **177.63** Cr by the Hon'ble Commission based on historical trends of capitalizations achieved during a year.

3.6.5 JSEB would like to submit that despite the best efforts put in by the Board for allocating work to contractors through bidding process, there were not enough participants/bidders in FY 2011-12. Hence the actual Capex for FY 2011-12 for transmission function was low as compared to the revised estimates for FY 2011-12.

3.6.6 It is submitted that the actual **Capital Expenditure** for **Transmission function** of JSEB for FY 2011-12 is Rs. **61.80** Crs and capitalisation for **Transmission function** for FY 2011-12 is at Rs. **58.67** Crs.

3.7 Gross Fixed Assets

3.7.1 In Tariff Order for FY 2012-13, the Commission had approved the aggregated GFA figures for FY 2011-12 by considering the capitalization approved for the year.

3.7.2 Therefore, the Hon'ble Commission had approved GFA for **Transmission function** of JSEB for FY 2011-12 at Rs. **611.52** Crs.

3.7.3 However, the actual GFA for **Transmission function** of JSEB for FY 2011-12 is at Rs. **492.56** Crs. The additions during FY 2011-12 are at Rs. **60.17** Crs. which are lower than that approved in the Tariff Order for FY 2012-13.

3.7.4 The details have been provided in the table below:

Table 3: Actual GFA for FY 2011-12 (Rs. Crs)

Particulars	Approved in the last Tariff Order	Provisional-FY 2011-12
Gross Fixed Assets (GFA)		
Opening GFA	433.89	433.89
Additions in GFA	177.63	60.17
Less: Deductions	-	1.50
Closing GFA	611.52	492.56
Less: Accumulated Depreciation	137.53	142.40
Net Fixed Assets	473.99	350.17



3.7.5 For funding of above GFA, the petitioner has considered normative debt equity ratio of 70:30 as provided in Clause 7.10 of the “Transmission Tariff Regulation, 2010”.

Table 4: Determination of Debt and Equity Component for FY 2011-12 (Rs. Crs)

Particulars	Approved in the last Tariff Order	Provisional FY 2011-12
Closing Gross Fixed Assets	611.52	492.56
Less: Accumulated Depreciation	137.53	142.40
Net Fixed Assets	473.99	350.17
Sourcing of Funding		
Equity	183.46	147.77
Loan	290.53	202.40
Total	473.99	350.17

3.8 Reasonable Return

3.8.1 For reasonable rate of return the petitioner has followed similar methodology as approved by commission in previous Tariff Order.

3.8.2 For funding of Net Fixed Assets, the Petitioner has considered normative debt equity ratio of 70:30 as provided in Clause 7.10 of the Transmission Tariff Regulations, 2010.

3.8.3 In Tariff Order for FY 2012-13, the Commission had considered a pre-tax rate of return on equity i.e. 15.50% for FY 2011-12 and approved Rs. 24.31 Crs as return on equity.

3.8.4 The petitioner has computed return on equity at Rs. 21.54 Crs as shown in the table below-

Table 5: Return on Equity for FY 2011-12 (Rs. Crs)

Reasonable Return (Rs. Crs)			
Particulars	FY 2011 -12		
	Projected	Approved	Provisional
Opening Balance of Normative Equity		130.17	130.17
Add: Deemed Additions during the FY	-	53.29	17.60
Closing Balance of Normative Equity		183.46	147.77
Average Balance of Normative Equity	114.60	156.81	138.97
ROE %	19.36%	15.50%	15.50%
Normative ROE Amount	30.53	24.31	21.54



3.8.5 The difference in approved and actual figure arises due to asset additions in FY 2011-12. The Hon'ble Commission had considered Rs. **177.63** Crs. as asset addition during FY 2011-12, however the actual additions during FY 2011-12 were at Rs. **58.67** Crs.

3.8.6 Therefore, the Hon'ble Commission is requested to approve the return on equity as shown above.

3.9 Interest and Finance Charges

3.9.1 The actual Interest on loan expense of the petitioner is divided in two parts – (i) The actual expense as excerpted from Provisional Annual Accounts for 2011-12; (ii) Common costs which have been disaggregated based on the %age of actual Interest on loan expense for transmission function over the actual total Interest on loan cost for all functions.

3.9.2 In Tariff Order for FY 2012-13, the Commission had approved Rs. **30.73** Crs as Interest & Finance Charges for FY 2011-12.

3.9.3 However, the petitioner has computed Interest & Finance Charges at Rs. **64.16** Crs as shown in the table below-

Table 6: Interest & Finance Charges (Rs. Crs)

Interest on Loan (Rs. Crs)			
Particulars	FY 2011-12		
	Projected	Approved	Provisonal
Actual Interest	26.44	30.73	64.16

3.10 Interest on Working Capital

3.10.1 The Petitioner has submitted the interest on Working Capital as per the "Transmission Tariff Regulation, 2010" in tariff Order for FY 2012-13.

3.10.2 As per "Transmission Tariff Regulations, 2010" the working capital requirements shall be determined as per the following norms:

(a) Operation & Maintenance expenses for one month.

(b) Maintenance spares @ 15% of operation and maintenance expenses

(c) Receivables equivalent to two months of fixed cost



3.10.3 The Commission had approved Interest on Working Capital as Rs. **4.66** Crs for FY 2011-12.

3.10.4 The actual Interest on Working Capital computes at Rs. **4.50** Crs. for FY 2011-12. The details of the same are provided in the table below-

Table 7: Interest on Working capital for FY 2011-12 (Rs Cr)

Interest on Working Capital			
Particulars	FY 2011-12		
	Projected	Approved	Provisional
O&M Expenses (1 Month)	6.95	4.87	3.51
Maintainence Spares (15% of O&M)	12.50	8.76	6.32
Expected Revenue at Existing Tariff (2 Months)	-	22.19	24.81
Total Working Capital	19.45	35.82	34.64
Rate of Interest on Working Capital	13.00%	13.00%	13.00%
Total Interest on Working Capital	2.53	4.66	4.50

3.11 Depreciation

3.11.1 The computation of depreciation is based on Straight Line Method of computation as prescribed in the Tariff Regulations issued by the Hon'ble Commission using the rates as provided in **Appendix I** to the **Tariff Regulations 2010**.

3.11.2 The **Depreciation Expenses** for FY 2011-12 in previous tariff order were approved by the Commission by considering approved capitalisation for the FY 2011-12.

3.11.3 Accordingly, the Commission had approved **Rs. 16.10 Cr** as **Depreciation Expenses** for Transmission function of JSEB for FY 2011-12.

3.11.4 The petitioner has followed the similar methodology for computing Depreciation for transmission function as approved in previous Tariff Orders;

3.11.5 Thus, the actual **Depreciation** cost for **Transmission function** of JSEB for FY 2011-12 computes at Rs. **20.96** Crs.

3.11.6 Therefore, the Hon'ble Commission is requested to kindly approve the same.

3.12 Non Tariff Income (NTI)



- 3.12.1 The Hon'ble Commission had approved Rs. 1.05 Cr as Non Tariff Income for Transmission function of JSEB for FY 2011-12.
- 3.12.2 The actual non-tariff income of the petitioner is divided in two parts – (i) The actual income as excerpted from Provisional Annual Accounts for 2011-12; (ii) Common income which has been disaggregated based on the %age of actual non-tariff income for transmission function over the actual total non-tariff income for all functions.
- 3.12.3 However, Delayed payment surcharge which forms a major portion of the distribution non-tariff income for 2011-12 is considered only to the extent realised i.e 10%.
- 3.12.4 The actual **Non Tariff Income** for Transmission function of JSEB for FY 2011-12 computes at Rs. **4.47** Crs.
- 3.12.5 It is requested to the Hon'ble Commission to approve Non Tariff Income for transmission function for FY 2011-12 at Rs. **4.47** Crs.

3.13 Summary of ARR for Transmission Business for FY 2011-12

- 3.13.1 The summary of ARR for Transmission Business as submitted by Petitioner in the previous petition, approved by the Commission in previous Tariff Order and Actual Performance now submitted for FY 2011-12 is summarised in the following table

Table 8: Summary of ARR for FY 2011-12 (Rs Cr)

Summary of ARR (Rs.Crs)			
Particulars	FY 2011-12		
	Projected	Approved	Provisonal
Operation & Maintenance Expenses	83.41	58.38	42.15
Depreciation	19.23	16.10	20.96
Interest and Finance Charges	26.44	30.73	64.16
Interest on Working Capital	2.53	4.66	4.50
Sub Total	131.61	109.87	131.77
Add: Reasonable Return	30.53	24.31	21.54
Total Expenditure	162.14	134.18	153.31
Less: Non Tariff Income	1.05	1.05	4.47
Aggregate Revenue Requirement	161.09	133.13	148.83



Chapter 4. Annual Performance Review for FY 2012-13

- This Chapter covers the component-wise comparison of previous year Petitioner's submissions, Approved figures by Commission in previous Tariff Order and Revised Estimates for the APR (Annual Performance Review) petition of FY 2012-13.

4.1 Operation and Maintenance Expenses

4.1.1 The Operation and Maintenance (O&M) Expenses includes Employee Cost, R&M Expenses and A&G Expenses.

4.1.2 In the previous tariff order Commission had approved Rs. **47.89** Cr for FY 2012-13.

4.1.3 Further, the Operation and Maintenance (O&M) Expenses have been discussed in detail in the subsequent paragraphs for Annual Performance Review exercise;

4.2 Employee Expenses

4.2.1 The **Employee Expenses** for FY 2012-13 in previous tariff order were approved by the Commission by increasing the *approved* employee cost (excluding the amount of arrears paid out on account of wage arrears and terminal benefits) for FY 2011-12 by weighted average inflation rate of **8.40%** (i.e. weighted average of WPI & CPI during past 5 years in ratio of 80:20, respectively).

4.2.2 The total employee cost was then **disaggregated** between Generation (thermal & hydel), Transmission and Distribution functions of JSEB in the **ratio of actual number of employees** during FY 2010-11.

4.2.3 Accordingly, the Commission had approved Rs. **28.42** Cr as employee cost for Transmission function of JSEB for FY 2012-13.

4.2.4 The petitioner has followed the similar methodology for computing employee cost for FY 2012-13 by escalating the *actual employee cost* for FY 2011-12 by escalation rate of **8.64%**;

4.2.5 Thus, the revised employee cost for **Transmission function** of JSEB for FY 2012-13 computes at Rs. **31.04** Crs.



4.2.6 Therefore, the Hon'ble Commission is requested to approve the same.

4.3 A&G Expenses

4.3.1 The **A&G Expenses** for FY 2012-13 in previous tariff order were approved by the Commission by escalating the A&G cost approved for FY 2011-12 by **8.40%** p.a. (i.e. weighted average of WPI & CPI during past 5 years in ratio of 80:20, respectively) subject to final true up based on audited annual accounts.

4.3.2 Accordingly, the Commission had approved Rs. **5.91 Cr** as A&G cost for Transmission function of JSEB for FY 2012-13.

4.3.3 The petitioner has followed the similar methodology for computing A&G cost for FY 2012-13 by escalating the *actual A&G cost* for FY 2011-12 by weighted average inflation rate of **8.64%**;

4.3.4 Thus, the actual A&G cost for **Transmission function** of JSEB for FY 2012-13 computes at Rs. **3.76 Crs.**

4.3.5 Therefore, the Hon'ble Commission is requested to approve the same.

4.4 R&M Expenses

4.4.1 The **R&M Expenses** for FY 2012-13 in previous tariff order were approved by the Commission by considering ratio of actual R&M cost incurred during FY 2010-11 to the opening GFA- (**2.22%**). This ratio was then multiplied with the approved opening GFA for FY 2012-13 to arrive at **R&M cost for Transmission function** of JSEB for FY 2012-13;

4.4.2 Accordingly, the Commission had approved **Rs. 13.56 Cr** as **R&M cost** for Transmission function of JSEB for FY 2012-13.

4.4.3 The petitioner has followed the similar methodology for computing R&M cost for transmission function as approved in previous Tariff Orders; the ratio of actual R&M cost of JSEB incurred during FY 2011-12 to the opening GFA of JSEB for FY 2011-12 is multiplied with the **actual** opening GFA of JSEB Transmission function for FY 2012-13 to arrive at **R&M cost for Transmission function** of JSEB for FY 2012-13;



- 4.4.4 Further it is to be noted that in order to take care of the impact of inflation and statutory levies etc, the ratio of actual R&M cost of JSEB incurred during FY 2011-12 to the opening GFA of JSEB for FY 2011-12 (**2.23%**) is escalated by inflation factor (**8.64%**) for FY 2012-13;
- 4.4.5 Therefore this revised ratio **2.44%** (including impact of inflation) is multiplied with the **actual** opening GFA of JSEB Transmission function for FY 2012-13 to arrive at **R&M cost for Transmission function** of JSEB for FY 2012-13;
- 4.4.6 Thus, the actual **R&M cost for Transmission function** of JSEB for FY 2012-13 computes at Rs. **12.01** Crs.
- 4.4.7 It is submitted that the revised **R&M cost for Transmission function** of JSEB for FY 2012-13 is lower than that approved by the Hon'ble Commission in previous Tariff Order due to difference in the approved opening GFA (Rs. **611.53** Crs) considered by Commission and Actual Opening GFA (Rs. **492.56** Crs) for FY 2012-13;
- 4.4.8 Therefore, the Hon'ble Commission is requested to approve the same.

4.5 Total O&M Expenses

- 4.5.1 The Hon'ble Commission is requested to approve the actual **O&M cost** for Transmission function of JSEB for FY 2012-13 at Rs. **46.81** Crs as shown in the table below:

Table 9: O&M Expenses for Transmission function of JSEB for FY 2012-13

O&M Expenses	Provisional- FY 2011-12	Previous Petition Submission for FY 2012-13	Approved in the last Tariff Order	Revised Estimates- FY 2012-13
A&G Expenses	3.46	5.95	5.91	3.76
R&M Expenses	10.11	49.14	13.56	12.01
Employee Expenses	28.57	45.26	28.42	31.04
Total	42.15	100.35	47.89	46.81

4.6 Capital Work in Progress, Capital Expenditure

- 4.6.1 JSEB since its formation in 2001 has undertaken various transmission network capacity addition, augmentation and improvement projects for achieving its objective of making availability and reliability of power uniform across the State.



- 4.6.2 In addition to augmentation of existing Grid substations, eight new substations and one mini Grid substation as well as the associated transmission lines are in the process of being added by JSEB.
- 4.6.3 The construction of new substations and associated transmission lines have been funded by REC loans routed through the State Government.
- 4.6.4 In this section, the STU has provided the outlay of Planned Capital Expenditure for FY 2012-13

Table 10: Capital Expenditure for FY 2012-13

Particulars	Revised Estimates FY 2012-13
Capital Works in Progress (CWIP)	
Opening CWIP	336.33
Add: Capex during year	189.00
Total CWIP	525.33
Less: Trfd to GFA	85.05
Closing CWIP	440.28
Gross Fixed Assets (GFA)	
Opening GFA	492.56
Add: Trfd from CWIP	85.05
Less: Deductions	-
Closing GFA	577.61

- 4.6.5 In the Tariff order for FY 2012-13, the Commission had approved the capital expenditure at Rs. **1246.22** Cr, for Transmission Business for FY 2012-13.
- 4.6.6 Further, the capitalisation for FY 2012-13 was approved at Rs. **484.98** Cr by the Hon'ble Commission based on historical trends of capitalizations achieved during a year.
- 4.6.7 It is submitted that the revised **Capital Expenditure for Transmission function** of JSEB for FY 2012-13 is planned at Rs. **189.00** Crs;
- 4.6.8 Further it is submitted that the petitioner has already incurred Capital Expenditure of Rs. **146.88** Crs for **Transmission function** of JSEB till 10th Dec 2012;
- 4.6.9 Also, the petitioner has considered capitalisation for **Transmission function** for FY 2012-13 at Rs. **85.05** Crs;



4.6.10 The capitalisation has been considered at **45%** of the planned capital expenditure for FY 2012-13 as approved by the Hon'ble Commission in previous Tariff Order for FY 2012-13;

4.7 Gross Fixed Assets

4.7.1 In Tariff Order for FY 2012-13, the Commission had approved the aggregated GFA figures for FY 2012-13 by considering the capitalization approved for the year.

4.7.2 Therefore, the Hon'ble Commission had approved GFA for **Transmission function** of JSEB for FY 2012-13 at Rs. **1096.51** Crs.

4.7.3 However, the estimates of GFA for **Transmission function** of JSEB for FY 2012-13 have now been revised at Rs. **577.61** Crs based on revised estimated additions/ capitalization during FY 2012-13 at Rs. **85.05** Crs.

4.7.4 The details have been provided in the table below:

Table 11: GFA for FY 2012-13 (Rs. Crs)

Particulars	Provisional FY 2011-12	Approved in the last Tariff Order	Revised Estimates FY 2012-13
Gross Fixed Assets (GFA)			
Opening GFA	433.89	611.53	492.56
Additions in GFA	60.17	484.98	85.05
Less: Deductions	1.50	-	-
Closing GFA	492.56	1096.51	577.61
Less: Accumulated Depreciation	142.40	163.83	166.61
Net Fixed Assets	350.17	932.68	411.01

4.7.5 For funding of above GFA, the petitioner has considered normative debt equity ratio of 70:30 as provided in Clause **7.10** of the "Transmission Tariff Regulation, 2010".



Table 12: Determination of Debt and Equity Component for FY 2012-13 (Rs. Crs)

Particulars	Provisional- FY 2011-12	Approved in the last Tariff Order	Revised Estimates- FY 2012-13
Closing Gross Fixed Assets	492.56	1,096.51	577.61
Less: Accumulated Depreciation	142.40	163.83	166.61
Net Fixed Assets	350.17	932.68	411.01
Sourcing of Funding			
Equity	147.77	328.95	173.28
Loan	202.40	603.72	237.72
Total	350.17	932.67	411.01

4.8 Reasonable Return

- 4.8.1 For reasonable rate of return the petitioner has followed similar methodology as approved by commission in previous Tariff Order.
- 4.8.2 For funding of Net Fixed Assets, the Petitioner has considered normative debt equity ratio of 70:30 as provided in Clause **7.10** of the “Transmission Tariff Regulations, 2010” which reads-

“For a project declared under commercial operation on or after 1.04.2011, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity deployed is less than 30% of capital cost, the actual equity shall be considered for determination of tariff”

Further Clause **7.11** & **7.12** of the “Transmission Tariff Regulations, 2010” read:

7.11 *Return on equity shall be computed in rupee terms, on the equity base determined in accordance with clause 7.10 of these Regulations.*

7.12 *Return on equity shall be computed on pre-tax basis at the base rate of 15.50% to be grossed up as per clause 7.13 of these Regulations.”*

- 4.8.3 Further, consumer contribution grants and subsidies for capital assets are netted off from gross fixed assets and the normative debt equity ratio is applied on the remaining gross fixed assets only.



4.8.4 In Tariff Order for FY 2012-13, the Commission had considered a pre-tax rate of return on equity i.e. 15.50% for FY 2012-13 and approved Rs. **39.71** Crs as return on equity for FY 2012-13;

4.8.5 The petitioner has computed return on equity at Rs. **24.88** Crs for FY 2012-13 as shown in the table below-

Table 13: Return on Equity for FY 2012-13 (Rs. Crs)

Reasonable Return (Rs. Crs)				
Particulars	FY 2011-12	FY 2012-13		
	Provisional	Projected	Approved	Revised Est
Opening Balance of Normative Equity	130.17		183.46	147.77
Add: Deemed Additions during the FY	17.60		145.49	25.52
Closing Balance of Normative Equity	147.77	-	328.95	173.28
Average Balance of Normative Equity	138.97		256.21	160.53
ROE %	15.50%		15.50%	15.50%
Normative ROE Amount	21.54	85.81	39.71	24.88

4.8.6 The difference in approved and revised figures arises due to asset additions/capitalization considered during FY 2012-13. The Hon'ble Commission had considered Rs. **145.49** Crs. as deemed addition during FY 2012-13, however the revised deemed additions during FY 2012-13 are at Rs. **25.52** Crs.

4.8.7 Therefore, the Hon'ble Commission is requested to approve the return on equity as shown above.

4.9 Interest and Finance Charges

4.9.1 The interest and finance charges for the transmission function have been calculated separately for the existing loans and loans to be taken for the proposed capital works. The interest calculation for new loans has been done assuming an interest rate of 13% and a repayment period of 10 years. For the existing loans the same is based on actual terms and conditions of the loans.

4.9.2 Further, as per the regulations, the interest during capitalization has been deducted from the total interest costs and a debt equity ratio of 70:30 has been assumed for calculating the interest costs.

4.9.3 The segregation of the existing loans into the three functions has been done based on the purpose for which the same were taken by the JSEB and only the



interest costs associated with the transmission function have been considered for estimating the interest and finance charges. Based on the above methodology, the interest costs for the control period as well as for the transition period are as under:

Table 14: Interest & Finance Charges (Rs. Crs)

Interest and finance charges	FY 2012-13
Interest on new loans	142.76
Interest on existing loans	68.44
Less interest during capitalization	58.37
Net interest	152.83
Interest considered @70%	106.98

4.10 Interest on Working Capital

4.10.1 The Petitioner has submitted the interest on Working Capital as per the “Transmission Tariff Regulation, 2010” in tariff Order for FY 2012-13.

4.10.2 As per “Transmission Tariff Regulations, 2010” the working capital requirements shall be determined as per the following norms:

“(a) Operation & Maintenance expenses for one month.

(b) Maintenance spares @ 15% of operation and maintenance expenses

(c) Receivables equivalent to two months of fixed cost”

4.10.3 The Commission had approved Interest on Working Capital as Rs. **6.19** Crs for FY 2012-13.

4.10.4 The revised Interest on Working Capital computes at Rs. **6.71** Crs. for FY 2012-13. The details of the same are provided in the table below-

Table 15: Interest on Working capital for FY 2012-13 (Rs Cr)

Interest on Working Capital				
Particulars	FY 2011-12	FY 2012-13		
	Provisional	Projected	Approved	Revised Est
O&M Expenses (1 Month)	3.51	8.36	3.99	3.90
Maintenance Spares (15% of O&M)	6.32	15.05	7.18	7.02
Expected Revenue at Existing Tariff (2 Months)	24.81	-	30.82	34.59
Total Working Capital	34.64	23.41	41.99	45.51
Rate of Interest on Working Capital	13.00%	14.75%	14.75%	14.75%
Total Interest on Working Capital	4.50	3.45	6.19	6.71



4.11 Depreciation

4.11.1 The computation of depreciation is based on Straight Line Method of computation as prescribed in the Tariff Regulations issued by the Hon'ble Commission using the rates as provided in **Appendix I** to the **Tariff Regulations 2010**.

4.11.2 The **Depreciation Expenses** for FY 2012-13 in previous tariff order were approved by the Commission by considering approved capitalisation for the FY 2011-12.

4.11.3 Accordingly, the Commission had approved Rs. **26.30** Cr as **Depreciation Expenses** for Transmission function of JSEB for FY 2012-13.

4.11.4 The petitioner has followed the similar methodology for computing Depreciation for transmission function for FY 2012-13 as approved in previous Tariff Orders;

4.11.5 Thus, the revised **Depreciation** cost for **Transmission function** of JSEB for FY 2012-13 computes at Rs. **24.21** Crs.

4.11.6 Therefore, the Hon'ble Commission is requested to kindly approve the same.

4.12 Non Tariff Income (NTI)

4.12.1 The petitioner has followed the similar methodology for computing Non Tariff Income for transmission function for FY 2012-13 as approved in previous Tariff Orders;

4.12.2 The Hon'ble Commission had approved Rs. **1.15** Cr as **Non Tariff Income** for Transmission function of JSEB for FY 2012-13.

4.12.3 The revised **Non Tariff Income** for Transmission function of JSEB for FY 2012-13 computes at Rs. **2.07** Crs.

4.12.4 It is requested to the Hon'ble Commission to approve Non Tariff Income for transmission function for FY 2012-13 at Rs. **2.07** Crs.



4.13 Summary of ARR for Transmission Business for FY 2012-13

4.13.1 The summary of ARR for Transmission Business as submitted by Petitioner in the previous petition, approved by the Commission in previous Tariff Order and Revised estimates now submitted for FY 2012-13 is summarised in the following table

Table 16: Summary of ARR for FY 2012-13 (Rs. Crs)

Summary of ARR (Rs.Crs)				
Particulars	FY 2011-12	FY 2012-13		
	Provisional	Projected	Approved	Revised Est
Operation & Maintenance Expenses	42.15	100.35	47.89	46.81
Depreciation	20.96	41.02	26.30	24.21
Interest and Finance Charges	64.16	71.81	65.95	106.98
Interest on Working Capital	4.50	3.45	6.19	6.71
Sub Total	131.77	216.63	146.34	184.71
Add: Reasonable Return	21.54	85.81	39.71	24.88
Total Expenditure	153.31	302.44	186.05	209.59
Less: Non Tariff Income	1.97	1.15	1.15	2.07
Aggregate Revenue Requirement	155.28	301.29	184.90	207.52



Chapter 5. ARR Determination for Control Period (FY 2014 – FY 2016)

- It is submitted to the Hon'ble Commission, that the projections for the **Control period** in Business Plan were submitted to the Hon'ble Commission on **10th October 2012**.
- However, it is pertinent to note that at the time of submission of the Business Plan; the various parameters were projected on the basis of the corresponding performances over the previous years as the accounts for the year FY 2011-12 were under compilation at the time of submission. However, at the moment, the Provisional Accounts are available; hence the true up for FY 2011-12 is based on the provisional accounts. Consequently, the figures submitted in this current petition shall differ from that submitted in the Business Plan.
- Though the figures of FY 2012-13 have already been shown in detail in the previous chapter, however for the purpose of explaining the basis of projections for control period in a better way, the same have been reproduced along with the projected figures of control period at appropriate places.
- Therefore the Hon'ble Commission is requested to consider the same.

5.1 Operation and Maintenance Expenses

5.1.1 Operation and Maintenance Expenses includes salaries, wages, Administrative & General Expenses and Repairs & Maintenance Expenses.

5.1.2 As per Regulation 7.36 of JSERC (Terms & Conditions of Determination of Transmission Tariff) Regulations, 2010; O&M Expenses shall be determined by the following formula:

"7.36 The O&M expenses permissible towards ARR of each year of the Control Period shall be approved based on the formula shown below:

$$O\&M_n = (R\&M_n + EMP_n + A\&G_n) * (1 - X_n) + Terminal Liabilities$$

Where,

$R\&M_n$ – Repair and Maintenance Costs of the Licensee for the n^{th} year;



EMP_n – Employee Costs of the Licensee for the n th year excluding terminal liabilities;

$A\&G_n$ – Administrative and General Costs of the Licensee for the n th year;

X_n – is an efficiency factor for n th year. The value of X_n will be determined by the Commission in its first MYT order for the Control Period;

5.1.3 Computation of Inflation Factor

As per Regulation 7.36 (a), Inflation Factor is calculated as

$$INDX_n = 0.55 * CPI_n + 0.45 * WPI_n$$

Note 1: For the purpose of estimation, the same $INDX_n / INDX_{n-1}$ value shall be used for all years of the control period. However, the Commission will consider the actual values in the $INDX_n / INDX_{n-1}$ at the end of each year during the Annual Performance Review exercise and true up the employee cost and A&G expenses on account of this variation, for the Control Period;

In line with the above formula, the inflation factor for the Control Period works out to be as follows:

Table 17 : Inflation Factor for WPI & CPI

WPI Inflation

Month/Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Average	Increase
FY 2012-13	163.50	163.90	164.20											
FY 2011-12	152.10	152.40	153.10	154.20	154.90	156.20	157.00	157.40	157.30	158.70	159.30	161.00	156.13	8.94%
FY 2010-11	138.60	139.10	139.80	141.00	141.10	142.00	142.90	143.80	146.00	148.00	148.10	149.50	143.33	

CPI Inflation

Month/Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Average	Increase
FY 2012-13	205.00	206.00												
FY 2011-12	186.00	187.00	189.00	193.00	194.00	197.00	198.00	199.00	197.00	198.00	199.00	201.00	194.83	8.39%
FY 2010-11	170.00	172.00	174.00	178.00	178.00	179.00	181.00	182.00	185.00	188.00	185.00	185.00	179.75	

The combined inflation factor after the weightages to CPI and WPI inflationary increases is provided in the table below:



Table 18 : Combined Inflation Factor for Control Period

Period	WPI	CPI
Increase of FY 2011-12 Index over FY 2010-11	8.94%	8.39%
Weightage	0.45	0.55
Weighted Index	4.02%	4.62%
Combined Inflation	8.64%	

5.1.4 Repairs and Maintenance Expenses

As per Regulation 7.36 (a), **Repair & Maintenance** cost is to be calculated as follows:

$$R\&M_n = K * GFA$$

Where,

– *K* is a constant (expressed in %) governing the relationship between R&M costs and Gross Fixed Assets (GFA) and will be calculated based on the % of R&M to GFA of the preceding year of the Base Year;

– *GFA'* is the opening value of the gross fixed asset of the n^{th} year;

5.1.5 'K' Factor

5.1.5.1 The Commission has provided in the regulation to compute R&M expenses in relation to the Gross Fixed Assets and by arriving at the 'K' Factor as per the figures of FY 2011-12 i.e. preceding year of base year (FY 2012-13). It is pertinent to note that even when there is no increase in GFA, there shall be an increase in R&M expenses on the account of normal inflation which is not factored by the Hon'ble Commission in the Distribution Tariff Regulations 2010. Thus, **JSEB** requests that inflation should be allowed along with the 'K' Factor while allowing R&M expenses for the Control Period, i.e. FY 2013-14 to FY 2015-16.

5.1.5.2 The Tariff Regulations also need to make provision for statutory increases like wages & labour charges, service tax levy, taxes & duties etc while allowing the R&M expenses for the period FY 2013-14 to FY 2015-16. It is submitted that



such kind of increases have direct impact on the expenses of the company which are not in the control of the company.

5.1.5.3 In order to take care of the impact of inflation and statutory levies etc, 'K' factor needs to be based on the year FY 2011-12 including inflation for future period and JSEB requests the Hon'ble Commission to kindly consider the same.

5.1.5.4 As stated in the regulation, 'K' is a constant (expressed in %) governing the relationship between R&M costs and Gross Fixed Assets (GFA) and will be calculated based on the % of R&M to GFA of the preceding year of the Base Year; hence 'K' factor for the control period shall be on the basis of the 'K' factor calculated for FY 2011-12 (being the preceding year of the base year, i.e. FY 2012-13).

Table 19: Calculation of 'K' Factor

<i>Details</i>	<i>FY 2011-12</i>
R&M Expense for FY 2011-12 for JSEB	52.38
Opening GFA for FY 2011-12 for JSEB	2,351.60
K Factor	2.23%

5.1.5.5 'K' Factor including Inflation factor for the Control Period works out as follows:

Table 20: 'K' Factor for Control Period

Particulars	FY 13-14	FY 14-15	FY 15-16
K Factor including Inflation	2.67%	2.92%	3.20%

5.1.5.6 Therefore, based on the foregoing paragraphs, the R&M expense for the Control Period is shown in the table below:

Table 21 : R&M Expenses for Control Period

Particulars	Base Year	Control period		
	FY 2012-13	2013-14	2014-15	2015-16
Opening GFA	492.56	577.61	1,663.39	2,782.89
K Factor	2.44%	2.67%	2.92%	3.20%
R&M Expenses	12.01	15.41	48.59	88.97

5.1.5.7 The petitioner requests the Hon'ble Commission to approve the same as per submissions.



5.1.6 Employee Expenses

As per Regulation 7.36 (a), **Employee cost** of the licensee is calculated as follows:

$$EMP_n \text{ (excluding terminal liabilities)} + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX_n / INDX_{n-1}) + G_n$$

Where,

- $INDX_n$ is the Inflation factor to be used for indexing the employee cost and A&G cost. This will be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding year before the base year;
- G_n is the Increase in Employee Expenses in n^{th} year due to increase in consumer base/ load growth. Value of G for each year of the Control Period shall be determined by the Commission in the MYT Tariff order based on Licensee's filing, benchmarking with the efficient utilities, actual cost incurred by the licensee due to increase in consumer base/load growth in past, and any other factor considered appropriate by the Commission;

5.1.6.1 Accordingly, the petitioner has escalated employee expenses of the base year (FY 2012-13) by inflation factor of **8.64%** for the subsequent years for projecting the employee expenses for JSEB;

5.1.6.2 It has been assumed that the ratio of the number of employees will not witness significant variation over the control period and hence the current ratio of employees (for FY 2011-12) in each function has been assumed to continue for the entire control period. Accordingly, the employee expenses projected for JSEB as a whole have been segregated into transmission and distribution assuming the same ratio;

5.1.7 Accordingly the employee expenses for transmission function so arrived at are as provided below:



Table 22: Employee Expense for Control Period

Particulars	Base Year	Control period		
	FY 2012-13	2013-14	2014-15	2015-16
Employee Expenses for Base Year	28.57	31.04	33.72	36.63
Inflation Factor	8.64%	8.64%	8.64%	8.64%
Employee Expenses	31.04	33.72	36.63	39.80

5.1.7.1 The petitioner requests the Hon'ble Commission to approve the Employee expenses including inflationary increase for the control period.

5.1.8 Administrative & General Expenses

The Administrative & General (A&G) Expenses consists of Billing & Collection expenses, legal & Regulatory fees, Bank charges, Advertisement, rates, taxes and consultancy fees. The A&G expense for the control period computed as per regulations is shown below:

Table 23 : A&G Expense for Control Period

Particulars	Base Year	Control period		
	FY 2012-13	2013-14	2014-15	2015-16
A&G Expenses for Base Year	3.46	3.76	4.09	4.44
Inflation Factor	8.64%	8.64%	8.64%	8.64%
A&G Expenses	3.76	4.09	4.44	4.82

5.1.9 Net Operation & Maintenance Expenses

Based on the foregoing paragraphs, the net O&M expenses for the control period are as follows:

Table 24: Net O&M Expenses for Control Period (Rs. Crs)

O&M Expenses	Base Year	Control period		
	FY 2012-13	2013-14	2014-15	2015-16
Employee	31.04	33.72	36.63	39.80
R&M Expenses	12.01	15.41	48.59	88.97
A&G expenses	3.76	4.09	4.44	4.82
Total	46.81	53.22	89.66	133.59



5.2 Capitalization schedule

- 5.2.1 As has already been mentioned, in light of the extensive work involved, several capital works under transmission function are being undertaken by agencies like PGCIL. In case of JSEB, due to acute shortage of manpower sometimes delays are observed in the implementation of capital works. However, owing to no such constraints in case of PGCIL, delays in work are not expected. Hence, the capitalization schedule for all the works as well as the CWIP has been proposed as under:

Table 25: Capitalization schedule for transmission function (%)

Schedule of capitalization	FY 2013-14	FY 2014-15	FY 2015-16
For Transmission	40%	30%	30%

Based on the above capitalization schedule the the Petitioner had proposed capitalisation of the assets during the control period. As can be seen from the above table, all the projects initiated in a particular year are expected to be completed by the end of the third year of their initiation.

- 5.2.2 Based on the above capitalization schedule the assets addition for each year has been worked out as under:

Table 26: Schedule of Closing GFA for transmission function (Rs. Cr)

Gross Fixed Assets (GFA)	FY 2012-13	2013-14	2014-15	2015-16
Opening GFA	492.56	577.61	1,663.39	2,782.89
Add: Trfd from CWIP	85.05	1,085.78	1,119.50	981.41
Less: Deductions	-	-	-	-
Closing GFA	577.61	1,663.39	2,782.89	3,764.30

- 5.2.3 The closing GFA has been used a metric for projecting several other costs like depreciation, R&M expenses, interest and finance charges and IDC etc.
- 5.2.4 The petitioner requests the Hon'ble Commission to approve the same.

5.3 Depreciation

- 5.3.1 For the purpose of projecting the depreciation costs for the control period "JSERC regulation for transmission tariff" state as under:

"7.24 Depreciation shall be calculated for each year of the Tariff period, on the amount of Capital Cost of the assets admitted by the Commission; Provided that



depreciation shall not be allowed on assets funded by any capital subsidy / grant.”

- 5.3.2 As per the requirements of the tariff regulations, JSEB is required to make the projections for depreciation based on the applicable rates of depreciation for each type of asset class.
- 5.3.3 However, each business unit (sub-division) prepares the depreciation for the different assets and sends the same to the headquarters. The same is compiled at the headquarters to arrive at the total depreciation to be booked under each asset class.
- 5.3.4 In *Schedule 19* of the annual accounts of JSEB (already submitted to the Hon'ble Commission) the break-up of the total GFA and the accumulated depreciation of JSEB into different asset classes are provided.
- 5.3.5 Further, *Schedule 20* of the annual accounts provides the breakup of the GFA and accumulated depreciation into the three functions namely Generation, Transmission and Distribution. Using this information, the total GFA as well as the accumulated depreciation for each year is broken down into the different asset classes for the three functions.
- 5.3.6 Once this is achieved, for each year from FY 2007-08 to FY 2011-12, the depreciation claimed in a particular asset class is calculated as percentage of the total GFA for that particular asset class during that year. The average of this figure for each of the above five years is then calculated to calculate the average depreciation claimed in each asset class. The average depreciation result so obtained is as under:



Table 27: Average depreciation claimed per year in each asset class for transmission function for FY 2007-08 to FY 2011-12 (%)

Depreciation as a percentage of closing GF	Average
Land and land rights	0.00%
Building	1.22%
Hydraulic Works	1.35%
Others Civil Works	1.19%
Plant and Machinery	2.49%
Lines and Cable Net Works	3.95%
Vehicles	3.10%
Furniture and Fixture	5.34%
Office Equipment	4.07%
Spare Units/Service Units	3.51%

- 5.3.7 The above table provides the average depreciation booked under each asset class by the JSEB over the last five years for the transmission function. Once this was estimated, the expected capitalization from the existing CWIP and the proposed capital expenditure for the transmission function was used to estimate the capital assets to be added to the GFA for each year.
- 5.3.8 This asset addition was distributed in the different asset classes in the same proportion as per the ratio of assets in the different asset classes at the end of FY 2011-12. Thereafter the closing GFA in each asset class was estimated for each year and the above calculated percentage were applied to estimate the depreciation in each asset class for each year. In simple words, JSEB has used the average depreciation booked and the expected capitalization in each asset class to arrive at the projected depreciation for each year.
- 5.3.9 Using the above methodology the depreciation for transmission function for the control period works out to be as shown under:



Table 28: Depreciation for control period (%) for transmission function

Depreciation Expense	Control period		
	2013-14	2014-15	2015-16
Land and land rights	-	-	-
Building	0.88	1.47	1.99
Hydraulic Works	0.44	0.74	1.00
Others Civil Works	0.14	0.23	0.31
Plant and Machinery	18.26	30.54	41.31
Lines and Cable Net Works	28.84	48.25	65.27
Vehicles	0.11	0.18	0.24
Furniture and Fixture	0.17	0.28	0.38
Office Equipment	0.12	0.21	0.28
Spare Units/Service Units	0.48	0.81	1.09
Capital spare at Generating Station	-	-	-
Assets taken over from Licensee			
Pending final valuation	-	-	-
Total	49.43	82.70	111.87

5.3.10 As can be seen from the above table, the projected depreciation expenses are showing a significant increase over the control period. This is primarily because of the huge capital base planned to be added in the transmission function over the years.

5.4 Return on equity

5.4.1 For reasonable rate of return for the control period, the petitioner has followed similar methodology as approved by commission in previous Tariff Order.

5.4.2 For funding of Net Fixed Assets during the control period, the Petitioner has considered normative debt equity ratio of 70:30 as provided in Clause **7.10** of the "Transmission Tariff Regulations, 2010" which reads-

"For a project declared under commercial operation on or after 1.04.2011, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity deployed is less than 30% of capital cost, the actual equity shall be considered for determination of tariff"

Further Clause **7.11** & **7.12** of the "Transmission Tariff Regulations, 2010" read:



7.11 Return on equity shall be computed in rupee terms, on the equity base determined in accordance with clause 7.10 of these Regulations.

7.12 Return on equity shall be computed on pre-tax basis at the base rate of 15.50% to be grossed up as per clause 7.13 of these Regulations.”

5.4.3 Return on equity computed by the petitioner for the control period is shown in the table below-

Table 29: Return on Equity for Control Period (Rs. Crs)

Reasonable Return (Rs. Crs)				
Return on Equity	Base Year	Control Period		
	FY 2012-13	2013-14	2014-15	2015-16
Opening Balance of Normative Equity	147.77	173.28	499.02	834.87
Add: Deemed Additions during the FY	25.52	325.73	335.85	294.42
Closing Balance of Normative Equity	173.28	499.02	834.87	1,129.29
Average Balance of Normative Equity	160.53	336.15	666.94	982.08
ROE %	15.50%	15.50%	15.50%	15.50%
Normative ROE Amount	24.88	52.10	103.38	152.22

5.5 Interest and Finance Charges

5.5.1 For Interest & Finance Charges for the control period the petitioner has followed similar methodology as approved by commission in previous Tariff Order.

5.5.2 For funding of Net Fixed Assets, the Petitioner has considered normative debt equity ratio of 70:30 as provided in Clause **7.10** of the “Transmission Tariff Regulations, 2010”.

5.5.3 The deemed repayment has been considered equivalent of the net depreciation cost for the FY.

5.5.4 Interest & Finance Charges computed by the petitioner for the control period are shown in the table below-



Table 30: Interest & Finance Charges (Rs. Crs)

Interest and finance charges	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Interest on new loans	142.76	316.66	428.24	478.48
Interest on existing loans	68.44	69.16	69.89	70.62
Less interest during capitalization	58.37	134.34	157.69	94.72
Net interest	152.83	251.48	340.44	454.38
Interest considered @70%	106.98	176.03	238.31	318.07

5.6 Interest on Working Capital

5.6.1 As per “Transmission Tariff Regulations, 2010” the working capital requirements shall be determined as per the following norms:

“(a) Operation & Maintenance expenses for one month.

(b) Maintenance spares @ 15% of operation and maintenance expenses

(c) Receivables equivalent to two months of fixed cos”

5.6.2 Interest on Working Capital for the control period computed by the petitioner is shown in the table below-

Table 31: Interest on Working capital (Rs Cr)

Interest on Working Capital				
Particulars	Base Year	Control Period		
	FY 2012-13	2013-14	2014-15	2015-16
O&M Expenses (1 Month)	3.90	4.43	7.47	11.13
Maintenance Spares (15% of O&M)	7.02	7.98	13.45	20.04
Expected Revenue at Existing Tariff (2 Months)	34.59	56.67	88.19	122.91
Total Working Capital	45.51	69.08	109.11	154.08
Rate of Interest on Working Capital	14.75%	14.75%	14.75%	14.75%
Total Interest on Working Capital	6.71	10.19	16.09	22.73



5.7 Non Tariff Income

5.7.1 The petitioner has followed the similar methodology for computing Non Tariff Income for transmission function for the control period as approved in previous Tariff Orders;

5.7.2 Non Tariff Income for the control period computed by the petitioner is shown in the table below-

Table 32: Non Tariff Income (Rs Cr)

Non Tariff Income				
Particulars	Base Year	Control Period		
	FY 2012-13	2013-14	2014-15	2015-16
Interest on advance to	0.27	0.21	0.24	0.27
Interest from Bank (Other than F.D)	0.47	0.39	0.36	0.33
Income from Trading	0.41	0.39	0.41	0.43
Miscellaneous Receipt.	-	-	-	-
Total NTI	2.07	0.99	1.01	1.03

5.8 Summary of ARR for Transmission Business for Control Period

5.8.1 The summary of ARR for Transmission Business for control period is summarised in the following table:

Table 33: Summary of ARR for Control Period (Rs Cr)

Summary of ARR (Rs.Crs)				
Particulars	Base Year	Control Period		
	FY 2012-13	2013-14	2014-15	2015-16
Operation & Maintenance Expenses	46.81	53.22	89.66	133.59
Depreciation	24.21	49.43	82.70	111.87
Interest and Finance Charges	106.98	176.03	238.31	318.07
Interest on Working Capital	6.71	10.19	16.09	22.73
Sub Total	184.71	288.88	426.76	586.25
Add: Reasonable Return	24.88	52.10	103.38	152.22
Total Expenditure	209.59	340.98	530.14	738.48
Less: Non Tariff Income	2.07	0.99	1.01	1.03
Aggregate Revenue Requirement	207.52	339.99	529.13	737.45

5.8.2 The Hon'ble Commission is requested to approve the same.

