BEFORE THE HONOURABLE

KERALA STATE ELECTRICITY REGULATORY COMMISSION

In the matter of :	Truing up of Cost and Revenue of Generation, Transmission and Distribution Strategic Business Units of the Kerala State Electricity Board (KSEBL) for the year 2015-16.
Petitioner :	Kerala State Electricity Board Limited, Vydyuthi Bhavanam, Pattom, Thiruvananthapuram - 4

THE PETITIONER HUMBLY STATES THAT:

CHAPTER- 1 : INTRODUCTION

1.1 The petitioner, Kerala State Electricity Board Limited (KSEBL), is a State Public Sector power utility company constituted by the State Government. The Assets, Rights and Liabilities of former State Electricity Board was re-vested into the company on September 31, 2013. The former Board and the petitioner company had been submitting ARR, ERC & Tariff and Truing up petitions regularly since FY 2003-04 in accordance with the Tariff regulation 2003, National Tariff Policy, Tariff Regulations of CERC and ESSAR of 1985, until 2014-15.

1.2 The Hon Commission notified new regulation for determination of Tariff in 2014 after repealing the earlier regulations, with a three year control period starting from FY 2015-16. The regulations brought in a performance based approval scheme along with a framework for sharing Gains and Losses and specifying the Controllable and un-controllable factors. However, the methodology followed for fixing norms, deviated substantially from the provisions of the Act 2003, National Tariff Policy guidelines, CERC regulations and APTEL orders.

1.3 Since the norms in the regulations would result in under recovery of genuine expenditure and derail the finances, the petitioner, was constrained to move the Hon High Court of Kerala in the matter. The Hon High Court, in an interim order dated 07-Jan-2015 on the Petition (WP(C) 465/2015) ordered not to reject the Tariff Petition filed by this petitioner.

1.4 The petitioner had filed the ARR & ERC petition on 30-Mar-2015. However Hon Commission had not processed the petition. Subsequently on 01-Mar-2017, Hon Commission decided that the petition has *lost its relevance as the FY 2015-16 was over and that the request of the petitioner is infructuous*.

1.5 Hon High Court by the final judgement dated 28-02-2018 has disposed the petition WP(C) 465/2015, directing *to pass orders on the application of the petitioner for truing up of accounts for the year 2015-16, 2016-17, 2017-18 with due regards to the findings in Ext P6 Judgment and consequential orders passed by the commission for 2010-11 onwards in the case of the petitioner.*

1.6 Therefore, now, the petitioner submits this truing up petition for FY2015-16 in accordance with Tariff Regulation of 2014. The prescribed formats in the regulation have been followed in this petition. The accounts for the three Business Units are separately filed along with this petition. The petitioner reasonably expects that Hon Commission would revisit the norm in the 2014 Regulation in view of the order on WPC 465/2015 of the Hon High Court. Since the instant petition is filed before such a review, justification of variations in controllable and uncontrollable expenses cannot be made at this point of time. Therefore the petitioner may be given an opportunity to submit reasons for deviation from the revised norms subsequently.

1.7 The true up petition is intended to fill the gap between actual expenses at the end of the year and the approved expenses in the ARR. In the absence of an approved ARR, comparison of actual expenses are made against the ARR filed to the extent possible

1.8 The summary of the audited Annual statement of Accounts of the Board for the year 2015-16 vis-à-vis the amount projected by KSEBL in the ARR&ERC is furnished in the Table – 1.1 given below. Detailed statement of comparison of ARR, ERC and Revenue Gap has been furnished in **Appendices - A2, A3 and A4** to this petition. The Statutory Auditors of KSEBL has conducted audit and issued certificate for the year 2015-16 and a copy of the audited accounts is enclosed as **Annexure 1**.

Table-1.1: Comparison of ARR, ERC and Revenue Gap for 2015-16 (Rs. Cr.)

No	Particulars	KSEB ARR	Audited Accounts	Truing up petition	Difference
1	ARR	12338.06	11560.44	12036.04	(302.02)
2	ERC	10765.89	11247.15	11227.15	461.26
3	**Revenue gap (1-2)**	**1572.17**	**313.29**	**808.90**	**(763.28)**

It may be noted that, the difference between the audited accounts and the Trued-up values are mainly due to inclusion of Return on Equity and exclusion of interest on security deposit etc in the truing-up values. The matter is clearly explained in the respective paragraphs in Chapters below. The Function wise segregation of expenses, revenue and Profit / loss are summarised below.

Table-1.2 : Business Unit wise segregation				
No	Particulars	SBU-G	SBU-T	SBU-D
1	ARR	434.74	534.03	1198.87
2	ERC	633.37	751.62	11173.98
3	**Revenue gap (1-2)**	**203.63**	**217.59**	**(808.89)**

The following eight chapters in this petition describe the Actual Expenses and Revenue of the petitioner in FY 2015-16 and the comparison with respective ARR values.

CHAPTER – 2: ENERGY SALES

The consumer category wise energy sold within the state in FY 2015-16 and that of the previous year is given in the table- 2.1 below. There was as increase by 4.88% over previous year (FY2014-15).

Table – 2.1 : Energy Sales			
Category	**2014-15**	**2015-16**	**% Change**
LT Domestic	9367.26	9943.48	6.15
LT Commercial	2418.28	2735.36	13.11
LT Industrial	1096.93	1103.23	0.57
LT Agricultural	291.41	279.48	-4.09
LT Streetlight	346.43	366.62	5.83
HT I industrial	1842.32	1852.13	0.53
HT II Non Industrial	551.97	678.04	22.84
HT III Agricultural	6.87	6.82	-0.79
HT IV -Commercial	578.81	584.39	0.96
HT V -Domestic	8.17	9.56	16.99
EHT 66/110/220kV	1093.39	906.69	-17.08
EHT General	65.05	68.38	5.12
Railway Traction	205.31	212.83	3.66
Bulk Supply	554.06	578.08	4.34
Sub Total(HT)	4905.96	4896.91	-0.18
Total	18426.27	19325.07	4.88

The actual energy sales within the state in comparison with the ARR estimated values are given in the Table - 2.2 below. The actual energy sold was 1.78% less than that estimated in the ARR.

Table-2.2 : Energy Sales within the State			
No	Category	ARR Estimated Energy sales (MU)	Actual Energy sales (MU)
1	LT 1(a) Domestic	10148.87	9943.48
2	LT IV Industrial	1155.32	1103.23
3	LT V Agriculture	325.39	279.48
4	LT VII Commercial	2531.90	2735.36
5	LT VIII Public Lighting	350.18	366.62
6	HT & EHT Total	4356.02	4106.02
7	Railway Traction	227.43	212.83
8	Bulk Supply	580.42	578.05
9	**Total sales (within state)**	**19675.53**	**19325.07**

There has been a decrease in energy sale to HT & EHT category caused by open access drawal of power by this group of consumers (142 MU) and also increase in own generation of captive consumers. The petitioner had also sold 53.48 MU outside the state at Kerala Periphery. This is the sales through power exchange in Day-ahead-market. The losses in the system are the difference between the total energy generated and purchased and the energy sold. The next chapter describes about the T&D losses.

Chapter – 3 : T&D LOSSES AND TOTAL ENERGY REQUIREMENT

A comparison of the total energy requirement and sales are shown in the Table-3.1 below.

Table – 3.1: Comparison of Energy requirement and Sales (in MU)				
No	**Particulars**	**KSEBL ARR**	**Actual**	**Variation**
1	Energy requirement	23000.18	22637.00*	(333.15)
2	Energy sales	19645.53	19325.07	(350.46)

The total energy input into the KSEBL system, is the net generation and power purchase at KSEB Periphery. The energy input, energy sales and T&D loss reduction as per the ARR and the actual are given below. KSEBL was able to reduce the T&D loss by 0.20% against a targeted reduction from 14.67% to 14.45%, i.e. 0.22% during the year 2015-16.

Table – 3.2 : Calculation of Losses				
No	Particulars	Unit	KSEBL ARR	Actual
1	Net Generation and Power Purchase at KSEBL periphery (excl. PGCIL losses)	(MU)	23000.14	22637.00
2	Energy injected by IPPs for outside sale	(MU)	0.00	40.44
3	Energy purchased by open access consumers	(MU)	0.00	142.00
4	**Sub Total**	(MU)	**23000.14**	**22819.44**
5	Energy sales within the State and open access	(MU)	19675.53	19325.07
6	Energy sales outside the State (at Kerala periphery)	(MU)	0.00	53.48
7	Sale outside the state by IPPs	(MU)	0.00	38.63
8	Open Access consumption	(MU)	0.00	135.25
9	**Sub Total**	(MU)	**19675.53**	**19552.43**
10	T&D Losses (3)- (4)	(MU)	3324.61	3267.01
11	T&D Loss as percentage of total energy input	(%)	14.45	14.37
12	**Loss reduction target approved/ achieved**	**(%)**	**0.22**	**0.20**

The details of energy drawn by open access consumers for the year 2015-16 are given in **Appendix A19**. The total energy injected by IPPs for sale outside the State through open access is 40.44 MU. The total energy purchased by consumers through open access is 142 MU. The loss in MU on account of open access transaction is 8.57 MU.

In this regard, Hon Commission may please appreciate that the petitioner was continuously reducing the T&D loss since the year 2001-02. It was able to reduce the total T&D loss in the system including transmission system to the level of 14.37% by the end of year 2015-16. Thus the losses in the system, as a percentage of the total energy input are one of the lowest among the utilities in the country. Consistent T&D loss reduction was one of the major achievements of the petitioner. It may kindly be noted that, since 2001-02 Board could achieve a cumulative loss reduction of 16.39% from the level of 30.76% to 14.37% in 2015-16. By reducing the T&D loss by 16.39% over the last 14 years, KSEBL was able to reduce generation and power purchase volume and cost substantially. Otherwise, KSEBL would have to procure considerable volume of energy during the year 2015-16. KSEBL has taken continuous efforts to reduce the T&D loss and has been passing on the entire savings to the consumers. However, it may please be appreciated that now reduction of losses are approaching its limit and it is hard to reduce losses by the same factor that had been achieved earlier. Further reduction of the technical losses would require huge capital investment and that the petitioner is taking earnest effort in preparing a detailed project for improving the transmission and distribution system. Therefore considering the earnest effort taken by the petitioner in reducing the losses, Hon Commission may please approve the actual loss reduction achieved during the year.

The losses in the system at different voltage levels are given in the Table-3.3 below. The losses are segregated based on Load flow studies done up to 33 kV level using computer simulation model in “Mi-Power” Software The methodology adopted for study is similar to that suggested by CEA and Adopted by Forum of regulators (FOR) for loss assessment. Balance losses are attributable to the HT and LT Network.

Table 3.3 Transmission and Distribution Losses

No	Voltage Level (kV)	Losses up to voltage level (%)
1	400	0.39
2	220	1.99
3	110	3.68
4	66	4.2
5	33	4.52
6	HT & LT	14.37

The next three chapters provide the actual expenses and the net ARR of the three business units of the petitioner.

CHAPTER – 4: TRUING-UP OF ARR OF SBU – GENERATION

4.1 The total energy generated and purchased by the petitioner to meet energy demand in the year was 22,637 MU. The energy generated by the petitioner's Generation Business Unit was 6752.22 MU out of which 6605.67 MU (98%) was from own Hydroelectric Stations and balance was generated from thermal Stations. The details of energy generated and expenses are furnished below.

4.2 **Hydro Generation**: In the ARR, KSEBL had estimated the net hydro generation at 7351.56 MU expecting normal monsoon in FY2015-16. But the net actual hydro generation during the year was only 6605.67 MU, i.e. 745.89 MU (10.15 %) less than the generation projected. The month wise details of hydel generation for the year 2015-16 are given in **Appendix A6** and the station wise generation details are enclosed as **Appendix A7**. Inflow review and month wise inflow in MCM is furnished in **Form G6.13 and G6.14.**

4.3 **Thermal Generation:** KSEBL had proposed 289.79 MU generation (net) from KDPP at an average variable cost of Rs 7.18 per unit for total fuel cost at Rs 208.05 Cr. However, KSEBL had been able to reduce the power schedule from thermal stations by scheduling only during emergency conditions as per merit order dispatch principle. As against the proposed, the actual net generation from BDPP and KDPP was 145.53 MU at a variable cost of Rs 104.26 Cr. The month wise details of generation from KDPP and BDPP for the year 2015-16 are furnished in **Appendix A8**. The summary of the generation and cost from BDPP and KDPP for the year 2015-16 is given below.

Table – 4.1 : Net generation and cost from BDPP & KDPP

Month	KSEBL proposal			Actual			Difference	
	Quantity (MU)	**Rate (Rs/kWh)**	**Amount (Rs. Cr)**	**Quantity (MU)**	**Rate (Rs/kWh)**	**Amount (Rs. Cr)**	**Quantity (MU)**	**Amount (Rs. Cr)**
BDPP	0.00	0.00	0.00	12.12	10.38	12.58	12.12	12.58
KDPP	289.79	7.18	208.05	133.41	6.87	91.68	-156.38	-116.37
Total	**289.79**	**7.18**	**208.05**	**145.53**	**7.16**	**104.26**	**-144.26**	**-103.79**

The actual generation from BDPP and KDPP together was less by 144.26 MU and the cost incurred was Rs 103.79 Cr less than the projected level. The generation operational parameters are furnished in **Form G 2.2** and Plant characteristics in **Form G 2.1**.

The actual ARR, ERC for the Generation Business Unit are furnished as per **Form G P&L.** The ARR is inclusive of RoE (@ 14% of Rs. 203.63 Cr) taken as per the Order dated 17-Apr-2017. Item wise explanation is furnished thereafter.

TABLE – 4.2 : ACTUAL ARR OF GENERATION BUSINESS UNIT (Rs Cr)		
No	**Particulars**	**Amount**
1	Cost of Generation of Power	104.26
1	Interest & Financial Charges	46.32
2	Depreciation	122.05
3	O&M Expenses	184.50
4	RoE (14% of Rs 1454.53 Cr)	203.63
5	Other debit and prior period income	-7 .96
6	ARR	652.80
7	Less Non-Tariff Income	19.43
8	**Net ARR** (Cost Transferred to SBU-D as Cost of Generation)	633.37

4.4 Interest and Finance charges: Interest on loans for the year 2015-16 has been Rs.46.32 Cr as detailed under **Form G6.2**. Capital works to the tune of Rs.247.49 Cr had been executed during the year.

4.5 O&M of SBU-G: The total O&M expenses of the generation Business Unit was Rs 184.50 Cr. The Component wise expenses are given in the Table – 4.3 below and detailed in Form G4. The hydro stations of the Petitioner are old plants compared to NHPC stations. The O&M cost of older plants is high on account of increase in wear and tear, difficulty in getting spares etc. At the same time, the O&M cost of Petitioner's plants is much lower when compared to that of approved O&M cost of NHPC stations. The total approved O&M cost of 12 hydro stations of NHPC with total installed capacity of 4015 MW is Rs. 1121.91 crore for 2015-16 (Regulation 29(4) of CERC (Terms and Conditions of Tariff) Regulations, 2014) Against this, the actual O&M expenses of KSEBL's 34 hydro stations of 2046MW capacity and 2 thermal stations of 159.96 MW comes to Rs.184.50 Cr only. This fact may be considered by the Hon Commission in revising norms and approving O&M Costs.

Table - 4.3 : O&M Cost components			
No	**Particulars**	**Amount (Rs Cr)**	**Remarks**
1	Employee Cost	142.17	Details given in Form G4(a)
2	A&G Expenses	61.31	Details given in Form G4(b)
3	R&M Expenses	26.02	Details given in Form G4(c)
4	**Total**	**184.50**	**Details given in Form G4**

The following new generating stations were commissioned after March 31, 2014. Hon Commission may please consider the O&M expenditure of these plants in addition to the normative O&M considered in the Regulation.

Table – 4.4 : New SH Generating stations Commissioned			
Project	CoD	Capacity (MW)	Energy (MU)
Vilangad	26-07-2014	7.5	22.53
Chimmony	22-05-2015	2.5	6.70
Adyanpara	03-09-2015	3.5	9.01
Barapole	29-02-2016	15	36.00
Total		**21**	**51.71**

4.6 Depreciation: Depreciation for the Generation assets for the year 2015-16 has been Rs.122.05 Cr as detailed in **Form G6.1**.

4.7 Return on Equity: Return on equity @14% on the allocated equity for the Generation SBU as per the Hon Commission order dated 17-Apr-2017, amounting to Rs.203.63 Cr as detailed in **Form G6.9.**

4.8 Other debits and Prior period expenses / income: Other expenses for the year have been Rs.2.24 Cr. During the year there has been income (net) amounting to Rs.10.20 Cr under prior period transactions. Hence, after adjusting other debits from prior period income, the net gain under this head works out to Rs.7.96 Cr. The Other debits include Material cost Variance, R&D Expenses, Bad Debts and Misc Losses Written-off. The material cost variance represents the difference between the actual rate at which material was procured and the standard rate at which materials are issued. Bad and doubtful debts written off/ provided for represent withdrawal of credits to revenue in earlier years. The miscellaneous losses and write off represent the compensation paid to staff and outsiders for injuries, death and danger. Prior period charges include both income as well as expenses relating to earlier years. During the year, prior period income and expenses amounted to Rs.5.64 Cr and Rs.1.23 Cr respectively, resulting in net prior period income of Rs.4.40 Cr.

4.9 Non tariff income: SBU G was able to collect Rs.19.43 Cr under non tariff income as detailed under **Form G3.2**. This includes Income from sale of scrap, interest on advances made to contractors, interest on staff loans and advances, Rent from buildings etc.

4.10 Transfer Cost: ARR for SBU G for the year 2015-16 has been Rs. 652.80 Cr and Non tariff income earned Rs. 19.43 Cr. Therefore, transfer price at SBU G has been Rs. 633.37 Cr. This cost has been considered as the Cost of own generation in the ARR of SBU-D.

5.1 The SBU-T handle total energy sold to consumers and licensees within the state, open access power drawn by the consumers and the small quantum energy sold outside the state. A summary of the actual ARR for SBU-T is given in the table 5.1 below. The ARR, ERC and Transfer price are furnished as per Form T P&L and Form T1. Transfer price for SBU T has been determined at Rs. 751.62 Cr after adjusting tariff and non tariff income of Rs.33.74 Cr. Item wise explanation is furnished in paragraphs below.

TABLE – 5.1 : ACTUAL ARR OF TRANSMISSION BUSINESS UNIT (Rs Cr)

No	Particulars	Amount
1	Interest & Financial Charges	49.63
2	Depreciation	133.04
3	O&M Expenses	390.86
4	Return on equity (14%)	217.59
5	Other debits and prior period income	(5.76)
6	ARR	785.36
7	Less: Income	33.74
8	**Net ARR (Cost Transferred to SBU-D as Cost of Intra-state transmission)**	**751.62**

5.2 **Interest and Finance charges:** Interest on loans for the year 2015-16 has been Rs.49.63 Cr as detailed under **Form T 4(B).** Capital works to the tune of Rs.322.21 Cr had been executed during the year.

5.3 **O&M Expenses**: Component wise O&M expenses are given below.

Table – 5.2 : Components of O&M

No	Particulars	Amount (Rs Cr)	Remarks
1	Employee Cost	292.54	Details given in Form T2(a)
2	A&G Expenses	50.41	Details given in Form T2 (b)
3	R&M Expenses	47.91	Details given in Form T2 (c)
4	**total**	**390.86**	**Details given in Form T2**

The Tariff Regulation 2014 takes the cost drivers for determination of O&M expenses for Transmission Business. The growth of Cost drivers of Transmission business is shown in the Table – 5.3 below:

Table – 5.3 Cost Drivers of Transmission Business								
Item	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Substation Bays*	1934	1994	2016	20128	2159	2406	2466	2488
Substation Bays**	---	----	---	2441	2464	3378	3471	3536
Transmission lines (Ckt KMs)	9012.5	9046.72	9047.61	9106.63	9147.25	9303.68	9377.03	9451
* Excluding 33 kV bays ** Including 33 kV bays								

The CERC norms (Regulation 29(4) (a) of CERC (T&C of Tariff) Regulations, 2014) for the above drivers are Rs. 34.66 Lakh per bay (weighted average for 220 Kv and 132 Kv and below) and 0.313 for (Double Circuit single conductor) lines. Thus the permissible O&M cost would be (2406 x Rs. 34.36 Lakhs + 9303.68 km x 0.313 =) Rs. 863.04 Cr. Therefore, the actual O&M expense of the petitioner is substantially lower than CERC allowed costs.

5.4 **Depreciation:** Depreciation for the Generation assets for the year 2015-16 has been Rs.133.04 Cr as detailed in **Form T3.**

5.5 **Return on Equity:** Return on equity @14% on the allocated equity for the Transmission SBU as per the Hon Commission order dated 17-Apr-2017, amounting to Rd. 217.59 Cr as detailed in **Form G6.9.**

5.6 **Other debits and Prior period expenses/income:** Other expenses for the year have been Rs.-1.64 Cr. During the year there has been income (net) amounting to Rs.4.12 Cr under prior period transactions. Hence, after adjusting other debits from prior period income, the net gain under this head works out to Rs.5.76 Cr. As explained in Para 4.8 above, other debits include material cost variance and bad debts other expenses and losses.

5.7 **Income:** SBU T was able to collect Rs.33.74 Cr under income detailed under **Form T 10**. This is inclusive of the transmission charges earned for Open access power transmitted. The Non- Tariff Income includes income from sale of scrap, interest on advances made to contractors, interest on staff loans and advances, Rent from buildings etc.

5.8 **Net ARR (Transfer Cost):** ARR for Transmission Business Unit for the year 2015-16 had been Rs785.36.62 Cr and total income earned was Rs. 33.74 Cr. Therefore, Net ARR of SBU-T has been Rs. 751.62 Cr. This cost has been considered as the Cost of intra-state Transmission in the ARR of SBU-D.

CHAPTER – 6 TRUING UP OF ARR OF ARR OF SBU – DISTRIBUTION

6.1 The Distribution Business Unit of the petitioner had sold a total of 19325.07 MU in the year within the state. The sum of energy sold (within and outside state) and system losses was the total requirement (22637.00 MU) in the year. About 6752.22MU (29.8%) of the requirement was supplied by the Generation Business Unit and balance was purchased from CGS and IPPS within and outside the state. A summary of ARR for SBU-D is given below. The details of various expenses, income and the revenue gap are explained in the following paragraphs.

TABLE – 6.1 : ACTUAL ARR OF DISTRIBUTION BUSINESS UNIT (Rs Cr)

No	Particulars	Amount
1	Cost of Generation (SBU-G)	633.37
2	Cost of Power Purchase	5912.38
3	Cost of Inter-State Transmission	424.44
4	Cost of Intra-State Transmission (SBU-T)	751.62
5	Interest & Financial Charges	741.19
6	Depreciation	236.13
7	O&M Expenses	3116.80
8	Return on equity (14%)	68.64
9	Other Expenses	98.30
10	Total ARR	11982.87
10	Less Tariff Income	10487.71
11	Less Non-Tariff Income	686.27
12	**Net Revenue Gap**	**808.89**

6.2 **Cost of Generation**: This is the net ARR of the SBU-G and Transferred to SBU-D.

6.3 **Cost of Purchase of power:** Cost of power purchase incurred by KSEBL for 2015-16 amounted to Rs. 6336.82 Cr, comprising Rs.5912.38 Cr towards power purchase and interstate transmission Cost of power purchase Rs. 424.44 Cr as detailed under **Form D3.1.** While submitting the ARR petition before the Hon Commission, the petitioner had expected that the energy from four new CGS projects would be available as promised. The Petitioner had also arranged power from various IPPs for meeting the demand. However, power from many of the sources could not be availed because of delay in new projects and also because of corridor constraints prevailed during the year. The petitioner therefore arranged power from alternate sources to meet the demand. A detailed description of the action taken by the petitioner to overcome the crisis is given in **Appendix - A1.** Hon Commission may please note that the petitioner had taken earnest effort to obtain power at the lowest cost from those sources without imposing any load shedding or power restriction in the state.

- **Power Purchase from Central Generating Stations:** In the ARR, KSEBL had estimated the net energy availability from CGS at 10532.21 MU at a total cost (fixed cost, variable cost, incentives, supplementary claims etc) of Rs 3594.65 Cr. The actual energy at KSEB bus during the year was 11048.70 MU at a cost of Rs. 3596.31 Cr . A comparative statement showing details of the energy scheduled and its cost from CGS as per the audited accounts and as per projection are detailed in **Appendix - A9**.

- **Power Purchase from Sources within the state:** The purchase of power from Wind IPPs and SHPs such as are given below. The details are given in **Appendix A10**. The power availability from these resources was 75.19 MU less from that estimated.

Table - 6.2 : Power Purchase from Wind IPPs and other sources							
No	Sources	ARR estimate		Actual		variation	
		Quantity (MU)	Cost (Rs Cr)	Quantity (MU)	Cost (Rs Cr)	Quantity (MU)	Cost (Rs Cr)
1	Wind IPPs	70.43	22.12	57.40	18.33	-13.03	-3.79
2	Other Sources*	142.32	43.63	80.16	27.99	- 62.16	- 15.64
3	Total	212.75	65.75	137.56	46.32	-75.19	-19.43

- **Power Purchase from Interstate Generating Stations, Traders, exchanges and DSM:** The state electricity demand cannot be met from the energy available from own generation, CGS stations and State sources alone. The cost of thermal power stations within the state is high and volatile. Thus the petitioner is taking best efforts to procure energy through traders, DSM and exchanges at most competitive rates. Overall 4570.76 MU was purchased at a total cost of Rs. 1894.97 Cr. The details are furnished under **Appendix A 11, A 13 and A 14**. Detailed note is provided at **Appendix A 1**.

- **Power purchase from Liquid Fuel stations: RGCCPP- Kayamkulam**: KSEBL had proposed to schedule RGCCPP during the month of February 2016 and March 2016 for a total quantum of 106.20 MU. There was a shortfall of 872.47 MU in power availability from firm traders for the period from April 2015 to November 2015 on account of corridor constraints. This is explained in **Appendix-A1**. KSEBL had, thus, scheduled 129.80 MU for a total power purchase cost of Rs 279.68 Cr (including fixed charges of Rs.211.22 Cr). Month wise details of the energy scheduled from RGCCPP-Kayamkulam plant is given in **Appendix - A15**. It may kindly be seen that KSEBL has scheduled power from RGCCPP during the months of June 2015, August 2015, September 2015 and October 2015 alone. The shortfall in contracted power from firm traders and the schedule from RGCCPP for these months are shown in the Table-6.3 below. This shortfall was met by additional hydel generation, purchasing power from day-ahead-markets and by scheduling RGCCPP. The actual and proposed month wise energy demand and availability for these months in 2015 is given as **Appendix - A16 and A17.**

Table – 6.3 : Shortfall from traders and schedule of RGCCPP				
Month	ARR	Actual	Shortfall	RGCCPP
June 2015	247.20	103.93	-143.27	3.08
August 2015	255.44	105.62	-149.82	17.76
September 2015	247.20	128.44	-118.76	100.65
October 2015	255.44	148.57	-106.87	14.33

- **BSES power:** KSEBL had scheduled 5.15 MU during the year 2015-16 from this plant at a cost of **Rs 90.21 Cr.** In the month May 2015, the

Power from BSES plant was availed to tide over an emergency situation and to avoid a possible load shedding and power cut.

- **KPCL:** KSEBL had also scheduled 7.21 MU during the year 2015-16 from this plant at a cost of Rs 4.88 Cr. KPCL was scheduled for testing during August 2015. During Dec 2013, KPCL could not run the plant as per the Availability declared by it. SLDC Kalamassery certified the availability declaration by KPCL as false and revised the deemed generation of the Plant to zero from June 2013.

For settling the disputes existing between M/s KPCL and KSEBL, KPCL filed petitions on 10/11/2011 before the KSERC. Based on the final order dated 1/11/2013 and 9/4/2014 of KSERC several round of discussions were held with KPCL at Board level .Subsequently KPCL and KSEBL mutually agreed to arrive at a settlement on 15/11/2014 on the outstanding amount and capacity declaration. Accordingly KPCL had to operate the plant for a continuous period of 15 days to prove the capacity declaration programme of the three machines as per the terms of PPA. Thus, the plant was run for fifteen days from 1/8/2015 to 26/8/2015 including preparation time.

- **Inter-state Transmission charges paid to PGCIL:** During the year 2015-16, KSEBL had paid Rs 424.44 Cr to PGCIL as transmission charges.

6.4 Summary of cost of Power purchase for the year 2015-16: The summary of the cost of power purchase approved by Hon Commission for the year 2014-15 and actual are furnished below. The details are given in **Appendix – A18**.

Table – 6.4 : Power Purchase for the year 2015-16

Particulars	KSEBL ARR		Actual		Variation	
	Energy (MU)*	Cost (Rs Cr)	Energy (MU)	Cost (Rs Cr)	Energy (MU)	Cost (Rs Cr)
Central Generating Stations	10532.21	3594.66	11048.70	3596.31	516.49	1.65
IPPs and liquid fuel stations.	318.95	430.10	278.28	421.10	-40.67	-9.00
Traders firm	3023.53	1460.39	3086.84	1450.41	63.31	-9.98
Traders / Exchanges/UI	1482.36	815.30	1483.93	444.55	1.57	-370.75
Total	15357.05	6300.45	15897.74	5912.38	540.69	-388.07

* Energy at KSEB Bus

7 O&M Expenses - Distribution:

O&M Expenses - Distribution: O&M expenses for SBU D for the year 2015-16 has been Rs.3116.80 Cr as detailed in Form D3.4. Component wise details of O&M expenses are as follows:

Table – 6.5 : Components of O&M Expenses			
No	**Particulars**	**Amount (Rs Cr)**	**Remarks**
1	Employee Cost	2669.83	Details given in Form D3.4 (a)
2	A&G Expenses	261.15	Details given in Form D3.4 (b)
3	R&M Expenses	185.82	Details given in Form D3.4 (c)
4	**total**	**3116.80**	**Details given in Form D 3.4**

7.1 The 2014 tariff regulation takes the following four cost drivers for determination of expenses. The growths of the drivers are given in the Table – 6.6 below.

Table – 6.6 : Distribution Cost Drivers									
Item	**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**
Consumers	9363461	9743476	10127946	10457637	10806890	11192890	11430895	11668031	11994853
Dist Transf	46359	52149	57954	62329	64972	67546	71199	72460	75759
HT Lines (km)	41283	44682	48342	51328	52907	53579	57309	59477	61364
Energy Sales (MU)	12414	13971	14548	15981	16838	17454	18426	19325	20055

7.2 **Depreciation:** Depreciation for the Distribution assets for the year 2015-16 has been Rs. 236.13 Cr as detailed in **Form D3.5 (2).**

7.3 **Interest and Finance Charges:** Interest on loans for the year 2015-16 has been Rs. 741.19 Cr as detailed under **Form D3.6**. Capital works executed under distribution works during the year had been Rs. 669.74 Cr.

7.4 **Return on Equity:** Return on equity @14% on the allocated equity for the Distribution SBU as per the Hon Commission order dated 17-Apr-2017, amounting to Rs. 68.64 Cr as detailed in **Form D3.8.**

7.5 **Other debits and Prior period expenses/income:** Other expenses for the year have been Rs. 88.38 Cr. During the year there has been prior period expenses (net) amounting to Rs.9.92 Cr under prior period transactions. Hence, expenses under this head works out to Rs.98.30 Cr. These expenses include material cost variance, bad debts and other expenses and losses as explained in Para 4.8 above.

7.6 **Non tariff income:** SBU D was able to collect Rs.686.27 Cr under non tariff income as detailed under **Form D.** This include Meter Rent/Service Line Rental, Miscellaneous charges (UCM, Service connection fee, Fee for maintenance of Public lighting, Testing fee, Reconnection fee, Penalty charges, Minimum Guarantee charges, Charges for Service connection minimum, Meter Box charges, Power allocation charges, Wheeling charges & Reactive energy charges , Interest on Staff Loans and Advances, Interest on Advances to suppliers/ Contractors, Interest from Banks, Rebate Received, Income from sale of scrap, RE Charges etc) Details are furnished in **Appendix A 31, A 32, A 33 and A 34**.

7.7 **Tariff income:** The actual energy sale within the State during 2015-16 was 19325.07 MU which was 350.46 MU less than estimated quantity of 19675.53 MU in ARR. Revenue from tariff during the year 2015-16 has been Rs. 10,446.01 Cr as disclosed in **Form D 2.1**. A summary of the Tariff from Sale of power is given below.

Table-6.7 : Revenue from Sale of Power within the State Category					
No	**Category**	**Estimated Energy sales (MU)**	**Estimated Revenue (Rs. Cr)**	**Actual Energy sales (MU)**	**Actual Revenue (Rs. Cr)**
1	LT 1 Domestic	10148.87	3818.29	9943.48	3744.10
2	LT IV Industrial	1155.32	683.01	1103.23	746.63
3	LT V Agriculture	325.39	76.30	279.48	65.62
4	LT VII Commercial	2531.90	2218.45	2735.36	2448.50
5	LT VIII Public Lighting	350.18	131.32	366.62	156.36
6	HT & EHT Total	4356.02	2938.91	4106.02	2816.89
7	Railway Traction	227.43	130.06	212.83	120.86
8	Bulk Supply	580.42	344.50	578.05	347.04
9	**Total sales (within state)**	**19675.53**	**10340.84**	**19325.07**	**10446.00**

The revenue from sale of Power is the billed demand inclusive of the subsidy allowed by the Government in the case of domestic consumers with monthly consumption up to 120 units and LT Agricultural consumers. It may kindly be noted that the decrease in energy sale to HT & EHT category is due to the impact of open access (142 MU) and also increase in own generation of captive consumers. Sale volume in 2015-16 has increase by 4.88% over 2014-15. The petitioner had earned Rs. 41.70 Cr from sale outside the state.

Next chapter contains explanations relating to various expenses and income in general.

CHAPTER – 7 : GENERAL EXPLANATION FOR VARIOUS EXPENSES

7.1 Interest and finance charges: An amount of Rs 1841.45 Cr has been projected in the ARR petition. However, the actual expense incurred was only Rs.909.14 Cr. This is primarily because of the fact that the envisaged Master Trust Bonds could not be issued in 2015-16 and corresponding interest of Rs. 814.44 Cr as envisaged was not made in that year. A comparison summary of I & F charges under various heads are given below.

Table 7.1 : Interests and finance Charges (Rs Cr)

Item	ARR Projection	Actual	Difference
Loan Interest	446.25	403.33	-42.95
Security Deposit Interest	150.00	167.90	17.9
Master Trust Bond Interest	814.44	0.00	-814.44
Overdraft interest	300.00	229.43	-70.57
Incentives to consumers	1.00	1.61	0.61
PF interest	121.84	106.25	- 15.59
Other interests	0.00	0.16	0.16
Cost of finance rising	1.00	0.04	- 0.96
Guarantee Commission	0.00	0.28	-0.28
Bank Charges	6.92	0.14	- 6.78
Total	1841.45	909.14	- 931.86

7.2 Interest on loans: The interest on short and long term loans was lower than projected. This was because of a substantial reduction in additional borrowing (Rs. 54.16 Cr) than estimated (Rs. 493.28 Cr). This, in-turn was caused by effective use of internal accruals and electricity duty. A summary of borrowings, repayments and interests are given in **Appendix – A20** and source wise details are given in **Appendix – A21.** It may kindly be noted that KSEBL had executed capital works to the tune of Rs.1239.44 crore during the year.

7.3 In this respect, the Hon Commission may kindly note that since short term loans could be obtained at comparatively lower rate than long term loans, KSEBL had availed short-term loans in the past for meeting capital liabilities. KSEBL has now shifted to availing long and medium term loans for this purpose to reduce the risk involved. Thus, Rs. 645.54 Cr loan from long term sources has been availed in 2015-16 reducing the short-term loans by Rs. 100 Cr. A summary of Short Term loans are given in **Appendix-A22**. Interest rates in 2015-16 had remained marginally lower than previous year. Thus interest on STL had been 194.03 Cr compared to Rs. 196.44 Cr of previous year. The details are given in **Appendix-A23.**

7.4 Interest on Overdraft: KSEBL had availed overdraft from banks to make up the shortages in cash flow in 2015-16 at an average level of **Rs. 2200 Cr** during the year and an interest of Rs. **229.43 Cr** was paid on overdraft. The Table – 7.2 below depicts the matter in brief. The month wise details of OD availed from various financial institutions and its interest are marked as **Appendix-A24 and A25**.

Table 7.2 Month wise overdraft balance in 2015-16		
Month Beginning	Over Draft Level (Rs. Cr.)	Interest (Cr)
01.04.2015	2110.48	18.30
01.05.2015	2014.27	18.21
01.06.2015	1946.61	18.90
01.07.2015	2332.81	21.47
01.08.2015	2276.97	20.62
01.09.2015	2226.23	20.27
01.10.2015	2306.28	20.61
01.11.2015	2273.38	17.78
01.12.2015	1962.51	15.71
01.01.2016	2280.35	20.27
01.02.2016	2405.81	17.92
01.03.2016	2237.23	19.37
	Average = 2197.74	**229.43**

- It may kindly be noted that the borrowing had to be resorted to in order to make good the financial difficulties caused by unrecovered revenue gap of earlier years. It may be seen from the Table 7.3 below that there was a substantial approved, but un-bridged revenue gap of R**s. 2925.01** Cr as per orders of ARR till 2014-15 ie at the beginning of FY 2015-16. The corresponding trued up values till 2013-14 has been Rs.5452.15 Cr. The increase in approved gap till 2013-14 true up over ARR approval has been Rs.3006.42 Cr.

Table 7.3 : Un-bridged Revenue Gap till 31.03.2015				
Year	Net Gap as per ARR orders	Net Gap as per true up orders	Subsequent rise in gap	Remarks
Till 2010-11	424.11	424.11	0.00	True up order 2010-11 dated 30.11.2012.
Additional gap for 2009-10		107.90	107.90	Order dated 09.05.2017.
Additional gap for 2010-11		204.70	204.70	Order dated 19.05.2017.
ARR 2011-12	928.62	1386.97	458.35	True up order dated 16.03.2017.
ARR 2012-13	632.02	3132.97	2500.95	True up order dated 0.03.2017.
ARR 2013-14	460.98	195.50	-265.48	True up order dated 20.06.2017
Revenue gap till 31.03.2014	**2445.73**	**5452.15**	**3006.42**	
ARR 2014-15	479.28			Rs.1809.17 crore sought by KSEBL for truing up.
Total	**2925.01**			

- Details of Net un-bridged revenue gap as per ARR orders are furnished in **Appendix-A26** and Comparison of the approved revenue gap and actual as per accounts **in Appendix-A27. Appendix-A28** gives comparison of approved and unbridged revenue gap as per ARR and True up orders. A substantial part of this Gap is caused by the high power purchase cost incurred in those periods.

- It may kindly be noted that the above wide revenue gap prevailed even after taking into account, the effect of tariff revision in those years. This huge un-bridged revenue deficit exerted considerable strain on the finances of KSEBL and to avoid a disastrous financial collapse, KSEBL had to avail OD from banks. *Thus the necessity average monthly over Draft borrowing Rs. 2200 Cr and corresponding interest of Rs. 229.43 Cr.* ***Hon Commission may please note that KSEB had not availed overdrafts corresponding to the un-bridged revenue gap prevailed in that year, but only a fraction of the gap amount was covered by availing overdraft, owing to the prudent financial management of KSEBL aimed just to tide over the difficulty****.*

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- It is humbly submitted that as per numerous judgments Hon APTEL has decided that carrying cost is a legitimate claim of the utility and therefore the interest on overdraft actually incurred is eligible for pass through. Kind attention of the Hon Commission is invited to the following judgments in this regard: (a) Appeal No 1 and 19 of 2013 dated 10.11.2014 (KSEB VS KSERC) - State Commission to issue consequential orders in line with the judgment with carrying cost.(b) b. Appeal No 1 of 2011 dated 11.11.2011- Carrying cost is a legitimate expense of the utility. (c) Appeal No. 190 of 2011 dated 28.11.2013- Circumstances necessitating creation of regulatory asset. (d) Appeal No. 153 of 2009 dated 30.07.2010- Components of regulatory asset. (e) Appeal 160 of 2012 and batch dated 08.04.2015- Principles based on which carrying cost to be allowed.

- The total unrecovered revenue gap as per the orders of the Hon Commission at the beginning of 2015-16 has been Rs 2925.01 Cr and trued up revenue gap till 31.03.2014 amounted to Rs.5452.15 Cr. Against the substantial revenue gap, actual overdraft as on 31.03.2016 amounting to Rs.2237.23 Cr, which is well within the permissible borrowings and hence actual interest on overdraft amounting to Rs.229.43 Cr may be approved in full.

7.5 Interest on security deposit: The interest on security deposit provided for 2015-16 has been Rs 167.90 Cr being 8.50% of Security deposits balance Rs 1975.31 Cr as on 31.3.2015. It has already been submitted before the Hon Commission that, KSEBL has been maintaining the accounts as per the accrual system. Against the provision, the actual interest on Security deposit disbursed during the ensuing year 2016-17 was Rs.153.64 Cr. Hon Commission may be pleased to approve this amount.

7.6 Interest on PF: In the ARR, KSEBL projected Rs 121.84 Cr towards interest on PF. But as per the audited accounts, the actual interest paid on PF was Rs.106.25 Cr, which was less by Rs.15.59 Cr from the projection. Interest allowed during the year was 8.70% which was marginally less than projected. The actual as per the audited accounts may kindly be approved.

7.7Interest on Master Trust Bonds: In the ARR, KSEBL projected Rs.814.44 Cr towards interest on Master Trust bonds. Even though the Trust was registered on 12.02.2015, KSEBL could not issue Bonds to the Master Trust and make it fully functional during the year 2015-16 due to non receipt of approval from the Commissioner of Income Tax. Without the department approval the cash flows to the Trust would have been affected due to income tax issues leaving it not in a position to fulfil its obligations. Therefore, KSEBL had pursued the matter with the income tax department all along and succeeded in obtaining recognition of the Trust from the Income tax Department on 08.09.2016. The issue of Bonds to the Master Trust as envisaged in the Transfer scheme has since been made and the scheme has been made fully operational from 01.04.2017. It is humbly submitted that various issues involved in the process have already been appraised before the Hon Commission. The delay in operationalization of Master Trust was beyond the control of KSEBL. In view of the above submission' Hon Commission may kindly true up terminal benefits actually disbursed during the year under employee cost.

7.8Terminal Liabilities and Pension: Kerala Service Rules as applicable in the Government are applicable to employees of KSEBL. The details of terminal benefits paid to retired employees in FY 2015-16 amounting to Rs.1004.50 Cr is given in table below. This liability had not been factored into the ARR projection, considering Master Trust formation would be materialized and that these liabilities would be transferred to that trust. However, Master Trust Bonds could not be formulated in that year because of the income tax liability issue submitted earlier. These benefits therefore have been paid directly to employees. Thus the amount has been reflected in the Final Accounts and this truing up petition.

Table – 7.4 : Pension and terminal Benefit Liabilities (Rs Cr)			
No	Item	KSEB ARR	Actual
1	Monthly Pension	KSEBL had not proposed any amount towards Terminal benefits as these expenses were proposed to be met through Master Trust.	919.33
2	Gratuity		41.13
3	Commutation		34.16
4	Medical Allowance		7.73
5	Special Festival Allowance		2.15
	Total		**1004.50**

7.9 Other charges: KSEBL has been reducing the bank charges consistently through negotiations with banks. The actual expenses were Rs.0.46 Cr only. Predominant portion of other charges represent guarantee charges payable to Government amounting to Rs.0.28 Cr. The actual expenses may kindly be approved.

7.10 Other interest: Rs.0.16 Cr represents interest paid on Gratuity consequent to the decision to implement the Payment of Gratuity Act in KSEB. Interest was paid as per section 7 of the Gratuity Act, a statutory claim, which automatically becomes applicable once decided to implement the said Act in KSEB. It is humbly submitted that Hon Commission was pleased to approve differential gratuity as per Gratuity Act over DCRG as per Part III KSR in line with Hon APTEL judgment dated 10.11.2014.Hon Commission may kindly approve the interest and finance charges as per the audited accounts as detailed above.

7.11 Depreciation: It is humbly submitted that KSEBL has started accounting for depreciation as per CERC norms from 01.11.2013 and the earlier practice of charging depreciation as per MoP rates had been dispensed with. The accounting policy with regard to depreciation is narrated in Note No. 38.4 (Page 30) in the Annual statement of Account. During the year, depreciation as per CERC rates and methodology worked out to Rs.491.22 Cr as detailed below. Further, a sum of Rs.26.41 Cr attributable to consumer contribution has been considered as income and credited to miscellaneous receipts under other income. Detailed depreciation is given in **Appendix-A29 and A30.**

Table 7.5 : Break-up of Depreciation (Rs Cr)		
1	Depreciation of assets above 12 years old	27.24
2	Depreciation of assets below 12 years old	463.98
3	**Total depreciation**	**491.22**

It is humbly submitted that KSEBL while projecting depreciation in ARR at Rs. 595.95, considered total GFA and applied general rate applicable to the respective asset group, without taking in to account fully depreciated assets. The actual depreciation is less because of the fact that item wise depreciation has been applied on assets other than fully depreciated assets. Hon Commission may kindly note that depreciation net of claw back credited to income, works out to Rs.464.81 Cr (Rs.

491.22 Cr minus Rs.26.41 Cr). As per practice being followed consistently, it is humbly requested that Hon Commission may kindly approve RS. 464.81 Cr under depreciation and reduce income of Rs. 26.41 under Non-Tariff Income.

7.12 Other Expenses: Other expenses include other debits and prior period charges. The comparison of other debits estimated in the ARR and actual expenses as per the audited accounts are given below.

Table 7.6 : Other Debits (Rs Cr)				
No	**Particulars**	**ARR**	**Actual**	**Difference**
1	Research and Development Expenses	1.60	0.09	-1.51
2	Provision for Bad and Doubtful debts	21.58	13.06	-8.52
3	Miscellaneous Losses and write-offs	4.50	3.96	-0.54
4	Sundry expenses	0.00	0.02	0.02
5	Material cost variance	0.00	71.84	71.84
6	**Total**	**27.68**	**88.98**	**61.30**

Now, **Bad and doubtful debts written off/ provided** for represent withdrawal of credits to revenue in earlier years. The **miscellaneous losses and write-offs** represent the total compensation paid for injuries, death and danger to staff (Rs. 0.62 Cr) and outsiders (Rs. 3.34 Cr). **The material cost variance** represents the difference between the actual rate at which material was procured and the standard rate at which pricing the issue of material was made. As per the ESAAR-1985, the material cost are first accounted as per the standard rates and subsequently difference between the actual and standards are accounted under material cost variance. Net debit balance in Reserve for material cost variance account arising as a result of valuation of materials under standard rate system is charged off to revenue account in compliance with the procedure cited above. In other words, the difference between material cost actually incurred and material cost charged to works at standard rate are accumulated under Reserve for Material Cost Variance account. Hence, the amount shown as expense in 2014-15 is the debit balance in Reserve for material cost variance account arose due to variation in material cost over and above the cost of material priced at standard rate. Hon Commission may kindly approve the material cost variance as per the audited accounts.

7.13 Prior period credit/ charges: Prior period charges include both income as well as expenses relating to earlier years. During the year, prior period income and expenses amounted to Rs. 5.64 Cr and Rs.1.23 Cr respectively; resulting in net prior period income of Rs.4.40 Cr. KSEBL has not proposed any amount in ARR towards Prior period expenses. It is the considered position of the Hon Commission that prior period charges could be covered in the truing up exercise. The same may be admitted as detailed above.

7.14 Non- Tariff Income: The petitioner had estimated in the ARR non-tariff income at Rs 425.05 Cr. But as per the audited accounts, this was Rs 759.44 Cr. The details are given in **Appendix-A31**. It may kindly be seen that the increase over projections was mainly under miscellaneous charges from consumers and miscellaneous receipts. Item wise break up of these heads are furnished in **Appendix-A32** and **Appendix-A33**. The main reason for variation was on account of interest charged on KWA arrears of Rs.245 Cr under miscellaneous charges from consumers, ordered to be netted off by the Government of Kerala against Electricity duty and other dues payable by KSEBL, during the year. Break up of income from sale of scrap is furnished in **Appendix-A34**. Similarly miscellaneous receipts include claw back depreciation amounting to Rs.26.41 Cr. Hon Commission may kindly note that, an Income tax refund of Rs.17 Cr was inadvertently credited to miscellaneous receipts. The mistake has been rectified in 2016-17. Further, a sum of Rs. 3 Cr received for installation of 6 digital seismic stations was also credited under this head. Hon Commission may kindly exclude Rs.20 Cr from this head while truing up. Hon Commission may kindly exclude claw-back depreciation of Rs. 26.41 Cr and approve Rs. 713.03 CR under Non-Tariff Income.

7.15 O&M Expenses: The business activity of KSEBL has been continuously increasing over several decades. The business growth in respect of number of consumers, their electricity requirement and fixed assets during last 10 years**.** It may be kindly noted that average annual growth during the period has been 3.65%, 7.56% and 9.61% respectively. Correspondingly the physical assets of KSEBL have also increased substantially.

The number of employees for maintaining the asset, and provide quality supply to consumers have also increased. The increase in employees is primarily in Technical areas. it may be seen that the more than 90% increase in number of employees is because of the increase in technical employees, in turn essential to maintain the asset and provide quality supply.

Actual R&M expenses increased by just 6.27% over 2014-15 expenses (Rs.244.22 Cr) and corresponds to inflation trends. Hon Commission may therefore consider that physical addition to major fixed assets during the period from 2006-07 to 2015-16 clearly reveals that there has been substantial addition over the period. Ten new hydroelectric stations were commissioned between FY 2009-10 and FY 2015-16. There were additions in Transmission and Distribution network corresponding to KSEBL business growth.

It may kindly be seen that substantial portion of expenses was incurred under Line, cable network etc and plant and machinery. Further, expenses under line, cable network has incurred mainly under distribution SBU and repairs to plant and machinery under Transmission and Generation. This is due to the care and efforts taken by the Board to maintain the LT network and lined and substations-33kV, 66kV, 110 kV and 220 KV. Expenses incurred under Lines, Cable net works are substantially (98%) incurred under Distribution functional area. These additions were required to provide supply to consumer in compliance of the KSERC Licensees (Standards of performance) Regulations and to cater new consumers. (About 3.00 Lakh new consumers were added in that year)

Regarding the R&M costs incurred for the year 2015-16, the function wise breakup of R&M expenses as a percentage of GFA works out to just 1.83% as given below.

Table 7.7 R&M expenses as a % of GFA

Particulars	GFA at the beginning of the Year 2015-16	R&M Expenses 2015-16	R&M Expenses as a % of GFA 2015-16	Functional GFA as a % of total GFA for 2015-16
	(Rs.Cr)	(Rs.Cr)	%	%
Generation	4033.36	25.92	0.64	27.40
Transmission	3844.45	47.34	1.23	27.07
Distribution	6325.64	186.50	2.95	44.53
Total	14203.45	259.76	1.83	100.00

The Next chapter summarises the expenses and revenues true-up for the year and determine the Net Revenue Gap for the year.

CHAPTER- 8 : SUMMARY OF TRUE-UP AND PRAYER

As explained in the preceding paragraphs, actual ARR has come down by Rs. 302.01 Cr, where as ERC has gone up by Rs.461.26 Cr. Thus the revenue gap for the year was Rs. 808.89 Cr. This is Rs.767.27 Cr less than the projection in ARR & ERC petition. An item wise comparison of the ARR, ERC and Revenue gap as per ARR and the actual as per the truing up petitions are given in the Table - 8.1 below.

Table - 8.1 : SUMMARY OF TRUE-UP FOR FY 2015-16

Particulars	ARR estimate	Actual	Trued up	Deviation
Generation Of Power	208.05	104.25	104.25	(103.80)
Purchase of power	6683.62	6336.82	6336.82	(346.80)
Interest & Finance Charges	1698.15	851.41	837.15	(861.00)
Depreciation	595.51	491.22	491.22	(104.29)
Employee Cost	2018.26	3104.53	3104.53	1064.56
Repair & Maintenance	283.41	259.76	259.76	(23.65)
Administration & General Expenses	281.03	327.87	327.87	50.44
Other Expenses	27.68	84.58	84.58	56.90
Net Expenditure (A)	**11795.71**	**11560.44**	**11546.18**	**(249.53)**
Statutory Surplus/ Roe (B)	542.35	0	489.86	(52.48)
ARR (C) = (A) + (B)	**12338.06**	**11560.44**	**12036.05**	**(302.01)**
Non-Tariff Income	425.05	759.44	739.44	314.39
Revenue from Tariff	10340.84	10487.71	10487.71	146.87
Total Income (D)	**10765.89**	**11247.15**	**11227.15**	**461.26**
Revenue Gap (C-D)	**1572.17**	**313.29**	**808.89**	**(763.27)**

The Statutory Auditors have audited the accounts for the year 2015-16. This truing up petition is prepared on the basis of the audited accounts. The petitioner is furnishing the details of accounts as per formats given in the Tariff regulation. However, should the Hon Commission requires any further details or information; the petitioner will be furnishing them as and when required. Since the revised norms are not available now, Hon Commission may allow the petitioner to provide further details and explanations when such norms are finalised.

Prayer

KSEBL humbly requests before the Hon Commission that:

(1) Truing up of Expenses and Revenue as per the Audited Accounts of KSEBL for the year 2015-16 and explained in this petition may kindly be approved, in view of the care and caution taken by the Board for carrying out the functions of the Board as a public utility as per the statutory provisions under the Electricity Act, 2003 and also as per the directions, orders and regulations issued by the Hon Commission, policies and directions issued by the State and Central Government and other statutory bodies within the provisions of the Electricity Act-2003.

(2) KSEBL may be permitted to explain variations if any consequent to the revision of norms by the Hon Commission in line with the judgment dated 28.02.2018 of Hon High Court of Kerala in WP(C) 465/2015.

(3) The revenue gap as per the petition may be accounted as regulatory asset or any other appropriate means deemed fit by the Hon Commission according to the provisions of law.

On Behalf of KSEB limited

Deputy Chief Engineer (Commercial & Planning)
With full powers of Chief Engineer

Enclosures:

1. Appendices - 34 (Pages - 17)
2. Annexure - ## (pages ##)
3. Forms (Pages ##)

Appendix – A1 : A detailed note on the power purchase in FY 2015-16

While estimating the energy availability in ARR & ERC, it was expected that the petitioner would get a total additional quantity of 298 MW / 1621 MU from four CGS projects viz., the second unit of Kudamkulam Nuclear Power Project, 3rd unit of Vallur JV, NLC Expansion stage-II and Bhavini Nuclear Power plant. The details of the anticipated COD, allocated capacity, expected energy and actual energy received are detailed below.

Name of the station	Total capacity (MW)	Allocation to KSEB (%)	Allocated capacity (MW)	Expected COD	Actual COD	Estimated MU	Actual MU
Vallur JV	1500	3.47	52	Mar-15	Feb-15	350.74	233.51
Kudankulam- II unit	1000	13.3	133	Jan-16	Mar-17	868.34*	255.66 *
NLC- Exp- Stage-II	2 x 250	14	70	U1: April-2015	July-15	267.24	96.11
				U2: Dec 2015	April-15		
Bhavini Nuclear Plant	500	8.60	43	Sep-15	-	134.88	0
Total	**3500**		**298**			**1621.2**	**585.28**

* From Koodankulam plant comprising 2 units

NTECL Vallur plant could achieve a plant availability factor of only 58.85 % against normative availability factor of 85% due to internal problems relating to unloading of coal. The second unit at Kudamkulam was not synchronised in the year as expected. Further Unit-I of the plant was shut down from July 2015 to January 2016. At NLC expansion the plant availability was only 19.39% against the normative of 75% during 2015-16. Bhavini nuclear power plant has not commissioned till date. Thus there was a reduction in total energy availability of 1035 MU from the above four power plants during 2015-16.

As already submitted in the ARR&ERC petition, there were severe corridor constraints in procuring power to southern region and open access applications for LTA, MTOA and STOA were only partly successful. In view of the corridor constraints KSEBL requested MoP for enhancing the allocation from Jhajjar to 300 MW from 167 MW up to 31.03.2016, since the allocation from this plant was done as per CGS allocation with assured transmission corridor. Thus 1572.20 MU of energy was purchased from Jhajjar plant against proposed 1115.48 MU in ARR.

The availability of power from CGS was more by 516.49 MU than estimated in the ARR&ERC mostly due to enhanced allocation from Jhajjar and better plant availability in some of the central stations. The power purchase cost was more by Rs 1.65 Cr from that proposed for the year 2015-16 as detailed in Appendix 7.Other charges claimed towards central generating stations and PGCIL are included in the cost of Central generating stations and PGCIL respectively. During the year, KSEBL adjusted net refund obtained towards EC & CC revision and RLDC refund amounting to Rs.78.64 Cr from power purchase cost.

KSEBL had, with the approval of Hon Commission, entered into PPAs with various generators/traders for meeting the power requirements of forthcoming years including the year 2015-16, as detailed under **Annexure II.** Approvals have been obtained from this Hon'ble Commission, for purchase through long term, medium term and short term contracts as detailed in **Annexure III (a)**. Copies of approvals are enclosed as **Annexure III (b)**. With the successful completion of ongoing litigation initiated by KSEBL before CERC against CTU on the matter of grant of MTOA and LTA, the availability of power at cheaper rates got improved by the end of the financial year and KSEB could reduce dependence of Jhajjar and other comparably costlier sources.150MW power become available under LTA from Maithon from December 2015 and 100 MW under LTA from DVC from March 2016. The power from Jhajjar was accordingly got de-allocated from March 2015 based on request made by KSEBL.

Similarly the grant of MTOA against application for 400 MW by M/s NVVN (300 MW) and PTC (100 MW) improved from 3 MW to397 MW gradually. MTOA for PTC was initially denied and subsequently based on CERC order 58 MW was granted from March 2015, which was enhanced to 100 MW from May 2015 onwards. In respect of MTOA for M/s NVVN, 174 MW was available for an interim period (March 2015 – 25th April 2015) which was withdrawn in April 2015. Thereafter MTOA was reinstated with 109 MW from 22-10-2015 which was enhanced to 238 MW from December 2015 and thereafter to 297 MW from 16-12-2015. Thus 300 MW power tied up with NVVN through case- 1 Bid route became fully available from 16.12.2015 only. Hence only 1115 MU could be availed from NVVN in 2015-16 against estimated quantum of 1467.30MU. Copies of letters on denial /grant of open access by CTU are enclosed as **Annexure IV (a) and IV (b).**

In view of the transmission constraint, 3023.58 MU was estimated through STOA expecting that at least 50% of the contracted capacity will be available during the year 2015-16 as detailed under **Annexure V.** KSEBL had contracted 301 MW power from Southern Region (Simhapuri) through PTC from June 2015 to May 2016 in short term. 875.52 MU was estimated to be received through this contract. Additionally as already mentioned in ARR 2014-15, considering the uncertainty in getting sufficient open access, KSEBL had issued LoIs for purchase of power as enumerated below for meeting the anticipated energy shortage during the summer months: (a) LoI for 348.5 MW from generators/ traders in Southern Region for the period from June-2014 to May-2015 (b) LoI for 175 MW from generators/ traders in the Southern Region for the period from February-2015 to May-2015 and (c) In addition, 191.60 MU from Southern Region was also proposed for April and May 2015. However, out of the above, KSEBL received only 2714.96 MU, leaving a shortfall of 308.57 MU. The shortfall was severe during the initial period from April 2015 to November 2015 where the shortfall was 872.47 MU. This was because of denial of open access due to corridor constraints existed in NEW grid-SR and S1-S2 region as detailed below.

In respect of contract for 301 MW from Southern Region - Simhapuri through PTC from June 2015 to May 2016 on short term basis, CTU granted MTOA during April 2016 only due to corridor constraints. Small quantum of power was scheduled on day ahead/advance basis when ever corridor was available. Copies of denial letters on open access by CTU are enclosed as **Annexure VI**.

Similarly, the MTOA applications for transfer of 200 MW through M/s JSW PTC for the period from 1st October 2014 to 31st May 2015 and 175 MW through M/s TPCIL for the period from 01.02.2015 to 31.05.2015 were rejected by PGCIL, reasoning that MTOA could not be granted due to limitation in ATC for import between S1&S2 areas. Copies of the letters are enclosed as **Annexure VII**. However, small quantum of power was scheduled on day ahead/advance basis whenever corridor is available.

In the case of contract with UPCL, request made by KSEBL to SRLDC for scheduling power was rejected as SLDC Karnataka did not give consent stating that the first and the primary option rests with ESCOMs of Karnataka, they being principal buyers of UPCL power. Also, Karnataka Government invoked section 11 of Electricity Act 2003. Even though the matter was taken up further, Karnataka SLDC maintained their earlier stand and refused to consider the application of KSEBL. Copy of letter from KPTCL is enclosed as **Annexure VIII**.

However, total quantum received through LTA/MTOA/STOA was 3086.84 MU in 2015-16. This is due to the improvement in availability from November 2015 onwards with successful completion of litigations on open access matter.

Details of actual power availed from contracted firm traders are given in **Annexure IX** . Details of reduction in power procurement from contracted firm traders through short term and medium term contract are given in **Annexure X.**

This shortfall was met by scheduling of liquid fuel stations within the state after availing full opportunity of the day ahead market and DSM.

KSEBL scheduled 1483.93 MU through energy exchanges against the estimated 1482.36 MU; with a total cost of Rs.443.99 Cr @ Rs 2.99/unit. Out of this 693.34 MU was obtained through DSM for Rs.139.89 Cr at Rs. 2.02 per unit, though this cannot be treated as a source of power and it can be considered only as a means to impose grid discipline. Month wise details of energy procured through DSM are furnished in **Annexure XI**. Summary of trader wise power purchase both firm and non firm is furnished in **Annexure XII**.

Per unit cost of actual procurement from exchanges and through DSM has been kept well within the approved rate. Hon Commission may kindly approve the same.

Appendix- A2 Comparison of ARR for FY 2015-16 (Rs Cr)					
No	**Particulars**	**KSEB ARR**	**Audited Accounts***	**Truing up Value**	**Difference over ARR**
1	Generation Of Power	208.05	104.25	104.25	-103.80
2	Purchase of power	6683.62	6336.82	6336.82	-346.80
3	Interest & Finance Charges	1698.15	851.41	837.15	-861.11
4	Depreciation	595.51	491.22	491.22	-104.29
5	Employee Cost	2228.26	3292.82	3292.82	1064.56
6	Repairs & Maintenance	283.41	259.76	259.76	-23.65
7	Adm & General Expenses	293.64	344.08	344.08	50.44
8	Other Expenses	27.68	84.58	84.58	56.90
9	Gross Expenditure	11795.71	11560.44	11546.18	-249.53
10	Return on Equity / Surplus	542.35	0.00	489.86	-52.48
11	**ARR (9 + 10)**	**12338.06**	**11560.44**	**12036.05**	**-302.01**

Appendix - A3 : Comparison of revenue for FY 2015-16 (Rs Cr)					
No	**Particulars**	**KSEB ARR**	**Audited Accounts**	**Truing up Value**	**Difference over ARR**
1	Revenue from energy sale	10340.84	10487.71	10487.71	146.87
2	Revenue from non-tariff income	425.05	759.44	739.44	314.39
3	**Total**	**10765.89**	**11247.15**	**11227.15**	**461.26**

Appendix - A4 : Comparison of Revenue Gap for FY 2015-16 (Rs Cr)					
No	**Particulars**	**KSEBL ARR**	**Audited Accounts**	**Truing up Value**	**Difference over ARR**
1	ARR	12338.06	11560.44	12036.05	-302.01
2	ERC	10765.89	11247.15	11227.15	461.26
3	**Revenue gap**	**1572.17**	**313.29**	**808.89**	**-763.27**

Appendix – A5 : Energy Generation and Power Purchase for FY 2015-16 (MU)			
Source	**KSEB ARR**	**Audited Accounts**	**Difference**
Gross Generation			
Hydro	7388.50	6639.02	-749.48
BDPP	0.00	13.25	13.25
KDPP	297.22	137.38	-159.84
Wind	1.70	1.38	-0.32
Solar	0.00	0.81	0.81
Subtotal- KSEB own generation	7687.42	6791.84	-895.58
Aux consumption			
Hydro	36.94	33.35	-3.59
Thermal	7.43	5.11	-2.32
Wind	0.00	0.00	0.00
Substations	0.00	14.14	14.14
Total	44.37	52.60	8.23
Balance	7643.05	6739.24	-903.81

Appendix – A6 : Hydel Generation for FY 2015-16 (MU)			
Month	**Generation**	**Aux Consumption**	**Net Generation**
Apr-15	616.51	2.66	613.85
May-15	753.10	2.90	750.20
Jun-15	517.63	3.17	514.46
Jul-15	705.37	3.12	702.24

Aug-15	671.81	3.19	668.62
Sep-15	583.54	2.92	580.61
Oct-15	531.39	2.85	528.53
Nov-15	404.43	2.58	401.85
Dec-15	400.06	2.57	397.49
Jan-16	405.92	2.31	403.61
Feb-16	457.01	2.29	454.72
Mar-16	592.26	2.77	589.49
Total	6639.02	33.35	6605.67

Appendix – A7 : Station Wise Hydel Generation in FY 2015-16

Hydro Electric Stations	**Generation (MU)**
Kuttiady (Units 1 to 6)	575.89
Sholayar	210.22
Poringalkuthu	170.77
PLBE	106.43
Pallivasal	218.60
Sengulam	160.91
Panniar	173.93
Neriamangalam+NES	352.07
Edamalayar	275.76
Idukki	2373.27
Sabarigiri	1168.95
Kallada	44.81
Peppara	4.71
Madupetty	4.29
Kakkad	183.64
Lower Periyar	510.97
Malampuzha	2.03
Chembukadav	9.04
Urumi	9.30
Malankara	32.43
Lower Meenmutty	5.56
Kuttiady Tail Race	8.05
Poozhithode	8.62
Ranni-Perinadu	7.66
Peechi	1.43
Vilangad	12.75
Chimony	4.59
Addyanpara	2.36
KSEB Hydro (TOTAL)	6639.02
Auxilary consumption	33.35
Net Generation	**6605.67**
Auxiliary consumption %	0.50

Appendix – A8 : Generation from BDPP and KDPP for FY 2015-16 (MU)						
Station	Net Generation from BDPP			Net Generation from KDPP		
Month	KSEBL ARR	Actual	Difference	KSEBL ARR	Actual	Difference
Apr-15	0	2.77	2.77	33.70	19.96	-13.74
May-15	0	2.13	2.13	34.82	14.57	-20.25
Jun-15	0	0.15	0.15	16.85	14.72	-2.13
Jul-15	0	0.92	0.92	17.41	8.59	-8.82
Aug-15	0	0.02	0.02	17.41	9.31	-8.10
Sep-15	0	-0.04	-0.04	16.85	32.27	15.42
Oct-15	0	1.37	1.37	17.41	9.23	-8.18
Nov-15	0	0.96	0.96	16.85	4.41	-12.44
Dec-15	0	0.29	0.29	17.41	2.15	-15.26
Jan-16	0	0.92	0.92	34.82	1.60	-33.22
Feb-16	0	-0.03	-0.03	31.45	0.00	-31.45
Mar-16	0	2.66	2.66	34.82	16.58	-18.24
Total	**0**	**12.12**	**12.12**	**289.80**	**133.41**	**-156.39**

Appendix A9 : Power Purchased from Central Generating Stations for FY 2015-16						
	KSEB ARR		Audited Accounts		Difference	
Station	**Energy* (MU)**	**Cost (Rs Cr)**	**Energy* (MU)**	**Cost (Rs Cr)**	**Energy* (MU)**	**Cost (Rs Cr)**
Talcher	3011.51	739.74	3179.79	665.91	168.28	-73.83
NLC Exp Stage I	427.82	148.39	463.56	175.31	35.74	26.92
NLC II Stage I	363.08	117.03	445.15	141.32	82.07	24.29
NLC II Stage II	518.3	165.92	599.01	188.16	80.71	22.24
RSTPS I & II & III	2135.33	716.93	2497.74	732.06	362.41	15.13
Maps	120.98	25.85	139.83	17.51	18.85	-8.34
Kaiga Stage I & II	422.88	132.85	553.88	187.35	131.00	54.50
Simhadri Exp	599.36	269.49	780.52	304.90	181.16	35.41
Kudamkulam	868.34	313.38	255.66	100.04	-612.68	-213.34
NLC II exp	267.24	93.29	96.11	45.73	-171.13	-47.56
NTECL Vallur JV	350.74	128.03	233.51	87.42	-117.23	-40.61
NTPL Tuticorin	200.34	73.13	231.73	94.87	31.39	21.74
IGSTPS Jhajjar	1115.48	623.42	1572.20	856.14	456.72	232.72
Bhavini	130.81	47.21	0	0.00	-130.81	-47.21
East Region **	--	---	----	-0.41	----	----
Total	**10532.21**	**3594.66**	**11048.70**	**3596.31**	**516.49**	**1.65**
** Energy purchased at KSEBL bus;* ******* Revision claims						

Appendix – A10 : Power Purchase from Wind and other small IPPs						
	KSEBL ARR		Audited Accounts		Difference	
Station	**Energy* (MU)**	**Cost (Rs Cr)**	**Energy* (MU)**	**Cost (Rs Cr)**	**Energy* (MU)**	**Cost (Rs Cr)**
Wind IPPs	70.43	22.12	57.40	18.33	-13.03	-3.79
Ullunkal	34	8.3	18.26	4.46	-15.74	-3.84
MP Steel	40.8	9.42	0.00	0.00	-40.80	-9.42
Iruttukanam I& II	15.52	4.29	24.83	6.85	9.31	2.56
Karikkayam	52	21.63	26.99	11.23	-25.01	-10.40
Meenvallom			5.56	3.96	5.56	3.96
INDSIL			4.25	1.33	4.25	1.33
Kallar			0.21	0.08	0.21	0.08
Mankulam			0.06	0.09	0.06	0.09
Total	**212.75**	**65.75**	**137.56**	**46.32**	**-75.19**	**-19.43**

Appendix - A11 : Power Purchase from firm traders for FY 2016-17			
Source	**Energy* (MU)**	**Cost (Rs Cr)**	**Av Cost (Rs / unit)**
Long Term Contracts			
Maithon Power Ltd	300.45	108.75	3.62
Damodar Valley Corporation(Mejia)	8.35	3.70	4.43
Medium Term Contracts / Short Term contracts			
NVVN	1115.24	534.73	4.79
PTC BALCO	643.76	245.67	3.82
PTC SIMHAPURI	914.18	495.39	5.42
TPCIL	21.18	12.25	5.78
JSWPTC	83.67	49.93	5.97
Total	3086.84	1450.41	4.70
** Units purchased at Kerala periphery*			

Appendix - A12 : Power contracted from firm traders (ARR Vs Actual) (MU)											
SOURCE	JSW, PTC, UPPL & TPCL[1]		PTC-SIMHAPURI[2]		PTC – MOTA[3]		NVVN – MOTA[4]		Total		
Month	ARR	Actual	ARR	Actual	ARR	Actual	ARR	Actual	ARR	Actual	Change
April	94.23	63.81			40.2	31.92	120.6	103.33	255.03	199.06	-55.97
May	97.37	63.26			41.54	42.74	124.62	7.04	263.54	113.04	-150.50
June			86.4	56.57	40.2	29.39	120.6	17.96	247.2	103.92	-143.28
July			89.28	39.57	41.54	29.28	124.62	43.11	255.44	111.96	-143.48
Aug			89.28	10.14	41.54	69.27	124.62	25.89	255.44	105.30	-150.14
Sept			86.4	31.78	40.2	55.54	120.6	41.13	247.2	128.44	-118.76
Oct			89.28	52.86	41.54	70.60	124.62	25.11	255.44	148.57	-106.87
Nov			86.4	77.40	40.2	61.05	120.6	105.27	247.2	243.72	-3.48
Dec			89.28	66.44	41.54	66.44	124.62	188.59	255.44	321.48	66.04
Jan			89.28	197.05	41.54	50.70	124.62	149.11	255.44	396.86	141.42
Febr			80.64	101.89	37.52	65.61	112.56	196.59	230.72	364.08	133.36
March			89.28	195.19	41.54	71.21	124.62	212.11	255.44	478.52	223.08
Total	191.6	127.07	875.52	828.88	489.1	643.76	1467.30	1115.24	3023.53	2714.96	-308.57

[1] *JSW – PTC (200 MW-RTC), PTC (130 MW-RTC), UPCL (18.50 MW-RTC), TPCIL (175 MW- RTC) @ Av Rs 5.80 at Kerala periphery*
[2] *SIMHAPURI (301 MW) SR power @ Rs 5.465per unit (June 2015 to May 2016)*
[3] *PTC (MOTA - 100MW) MTOA @Rs 4.45 per unit*
[4] *NVVN (MOTA- 300MW) @Rs 4.49 per unit*

Appendix – A13 : Power received through Deviation Settlement Mechanism			
Month	**Net Energy (MU)**	**Amount (Rs Cr)**	**Unit Cost (Rs)**
Apr-15	45.86	9.23	2.01
May-15	47.95	8.92	1.86
Jun-15	43.53	6.52	1.50
Jul-15	52.97	10.51	1.98
Aug-15	59.31	13.11	2.21
Sep-15	66.10	18.84	2.85
Oct-15	74.41	16.11	2.17
Nov-15	72.10	13.98	1.94
Dec-15	57.97	11.64	2.01
Jan-16	47.06	7.94	1.69
Feb-16	48.16	7.85	1.63
Mar-16	77.92	15.23	1.95
Total	**693.34**	**139.89**	**2.02**

Appendix –A14 : Power purchased through Traders and Exchanges			
Trader	**Energy in MU**	**Cost (Rs Cr)**	**Unit Cost (Rs)**
Maithon Power Ltd	300.45	108.75	3.62
Damodar valley Corporaion	8.35	3.70	4.43
Power Trading Corporation of India Ltd.	1557.94	741.06	4.76
NTPC Vidyut Vyapar Nigam Limited (NVVN)	1115.24	534.73	4.79
Thermal Powertech	21.18	12.25	5.78
JSW Power Trading Company Ltd.	83.67	49.93	5.97
Swap GMRETL	75.40	2.14	0.28
IEX Ltd.	675.15	285.69	4.23
PXI Ltd.	40.04	16.83	4.20
Deviation Settlement mechanism	693.34	139.89	2.02
Total	**4570.76**	**1894.97**	**4.15**

Appendix – A15 : Power purchase from RGGCPP for FY 2015-16 (Rs Cr)					
Month	Energy (MU)	Fixed cost (Rs Cr)	**Total variable Cost (Rs Cr)**	Unit Variable Cost (Rs)	Total cost (Rs Cr)
Apr-15	-0.90	18.49	0.00	0.00	18.49
May-15	-0.80	18.49	0.00	0.00	18.49
Jun-15	3.08	17.42	3.47	11.29	20.90
Jul-15	-0.85	17.42	0.00	0.00	17.42
Aug-15	17.76	17.42	16.33	9.20	33.76
Sep-15	100.65	17.42	74.58	7.41	92.01
Oct-15	14.33	17.42	11.18	7.80	28.60
Nov-15	-0.71	17.42	0.00	0.00	17.42
Dec-15	-0.39	16.90	0.00	0.00	16.90
Jan-16	-0.86	17.95	0.00	0.00	17.95
Feb-16	-0.78	17.42	0.00	0.00	17.42
Mar-16	-0.71	17.42	0.00	0.00	17.42
Total	129.80	211.22	105.57	8.13	316.78
Supplementary claims & provisions					-37.10
Grand total					279.68

Appendix- A16 : Energy Deficit (MU)											
Month		Demand	Hydro	KSEB wind & solar	CGS	Small IPPs	Traders firm	KDPP	Short term	Total Availability	Balance required
Jun - 2015	Proposed	1809.99	469.82	0.20	818.86	25.27	247.20	16.85	231.79	1809.99	
	Actual	1734.54	514.46	0.15	927.79	18.69	103.93	14.73	151.56	1731.30	
	Deviation	-75.45	44.64	-0.05	108.93	-6.58	-143.27	-2.12	-80.23	-78.69	3.24
Aug - 2015	Proposed	1789.27	561.87	0.20	846.15	22.61	255.44	17.41	85.59	1789.27	
	Actual	1872.34	668.62	0.18	873.36	20.81	105.62	9.31	169.38	1847.28	
	Deviation	83.07	106.75	-0.02	27.21	-1.80	-149.82	-8.10	83.79	58.01	25.05
Sept -2015	Proposed	1818.93	555.55	0.10	857.27	26.10	247.20	16.85	115.86	1818.93	
	Actual	1846.43	580.62	0.09	833.73	15.50	128.44	32.23	155.16	1745.77	
	Deviation	27.50	25.07	-0.01	-23.54	-10.60	-118.76	15.38	39.30	-73.16	100.65
Oct -2015	Proposed	1895.98	577.22	0.10	885.85	16.45	255.44	17.41	143.52	1895.98	
	Actual	1895.31	528.53	0.24	966.29	11.90	148.57	9.23	214.87	1879.63	
	Deviation	-0.67	-48.69	0.14	80.44	-4.55	-106.87	-8.18	71.35	-16.35	15.69

Appendix - A17 : Meeting Deficit						
Month	Shortfall (-)	Additional over ARR	Net energy needed	Requirement met through various sources		
				BDPP	RGCCPP	KPCL
June	-78.69	-75.45	3.24	0.15	3.08	0.00
August	58.01	83.07	25.05	0.08	17.76	7.21
September	-73.16	27.50	100.65	0.00	100.65	0.00
October	-16.35	-0.67	15.69	0.00	14.33	1.37

Appendix – A18 : Summary of power Purchase for FY 2015-16			
No	**Source**	**Actual Energy* (MU)**	**Actual Cost (Rs Cr)**
1	**CGS**		
	Talcher	3179.79	665.91
	NLC Exp Stage I	463.56	175.31
	NLC II Stage I	445.15	141.32
	NLC II Stage II	599.01	188.16
	RSTPS I & II & III	2497.74	732.06
	Maps	139.83	17.51
	Kaiga Stage I & II	553.88	187.35
	Simhadri Exp	780.52	304.90
	Kudamkulam	255.66	100.04
	NLC II exp	96.11	45.73
	NTECL Vallur JV	233.51	87.42
	NTPL Tuticorin	231.73	94.87
	IGSTPS Jhajjar	1572.20	856.14
	Bhavini	0.00	0.00
	Eastern region (revision claims)		-0.41
	SubTotal	11048.70	3596.31
2	**IPPs**		
	RGCCPP, Kayamkulam	129.80	279.68
	BSES	3.71	90.21
	KPCL	7.21	4.88
	Wind	57.40	18.33
	Ullunkal	18.26	4.46
	MP Steel	0.00	0.00
	Iruttukanam Stage I& II	24.83	6.85
	Karikkayam	26.99	11.23
	Meenvallom	5.56	3.96
	INDSIL	4.25	1.33
	Kallar	0.21	0.08
	Mankulam grama panchayath	0.06	0.09
3	TRADERS		
	TATA MAITHON	300.45	108.75
	DVC MEJIA	8.35	3.70
	NVVN	1115.24	534.73
	PTC	1557.94	741.06
	JSWPTC	83.67	49.93
	TPCIL	21.18	12.25
	GMRETL(SWAP)	75.41	2.14
4	IEX	675.15	285.69
5	PXIL	40.04	16.83
6	DSM	693.34	139.89
7	Transmission charges payable to PGCIL		424.44
	Total	15897.74	6336.82
* Actual Energy Purchased at KSEB Bus			

Annexure – A19 : Energy wheeled by open access consumers (MU)			
Open Access Consumer	**Energy wheeled at Kerala Periphery**	**Energy at injection/drawal point**	**Loss on accounting of wheeled units**
Energy Sold outside the State through open access			
Philips Carbon Black Limited, Kochi	-38.63	-40.44	1.82
Energy purchased from outside the State through open access			
Apollo Tyres, Perambra	23.88	22.81	1.07
Carborundum Universal, Kalamassery	28.74	27.44	1.30
EICL,Veli,Tvm	2.68	2.41	0.27
Hindustan Newsprint Ltd	27.67	26.43	1.25
Carborundum Universal, Koratty	23.44	22.39	1.05
Premier Tyres Ltd	6.75	6.44	0.30
INDSIL Electromelts Ltd	5.27	5.03	0.24
EICL,Pothencode,Tvm	2.50	2.26	0.24
KMML , Chavara	14.02	13.38	0.64
Patspin India, Kanjikkode	5.07	4.85	0.23
FCI OEN Connectors, Mulanthuruthy	1.52	1.37	0.15
MRF Ltd	0.45	0.43	0.02
Subtotal purchase	**142.00**	**135.25**	**6.75**

Appendix – A20 : Summary of the borrowings and repayments in FY 2015-16 (Rs Cr)										
	Opening Balance		**Borrowing**		**Redemption**		**Closing Balance**		**Interest**	
Item	ARR	Actual*	ARR	Actual*	ARR	Actual*	ARR	Actual*	ARR	Actual*
Long term Loans	1587.53	1699.35	500.00	645.54	506.72	491.38	1580.81	1853.51	189.62	230.63
Short term Loans	2200.00	2000.00	2650.00	3425.00	2150.00	3525.00	2700.00	1900.00	256.63	172.70
Total	**3787.53**	**3699.35**	**3150.00**	**4070.54**	**2656.72**	**4016.38**	**4280.81**	**3753.51**	**446.25**	**403.33**
*** Actual as per audited accounts;**										

Appendix – A21 : Source wise details of loans availed in FY 2015-16						
SL.NO.	Name of Firm	Outstanding as on 31-03-2015	Received during the year	Repaid during the year	Outstanding as on 31-03-2016	Interest for the year
	Long Term Loans					
1	LIC	10.00	0.00	4.00	6.00	0.65
2	REC	127.29	0.00	53.87	73.42	12.71
3	REC Transmission	136.58	0.00	0.00	136.58	16.38
4	REC Transmission Group 1	22.14	26.02	0.00	48.16	3.01
5	REC District 23 Scheme	102.38	352.05	0.00	454.43	27.81
6	REC District Meter Scheme	74.68	0.00	0.00	74.68	8.40
7	REC R-APDRP -Part - B	205.80	112.50	0.00	318.30	29.35
8	REC-RGGVY	14.30	0.00	0.18	14.12	1.71
9	REC Thottiyar	0.00	53.73	0.00	53.73	5.32
10	PFC	188.51	2.27	0.00	190.78	22.93
11	PFC GEL Kakkayam	0.00	8.97	0.00	8.97	0.48
12	Medium Term Loan	566.67	0.00	433.33	133.34	46.52
13	R-APDRP Part A	89.26	0.00	0.00	89.26	33.96
14	R-APDRP Part B	161.74	0.00	0.00	161.74	
15	South Indian Bank	0.00	90.00	0.00	90.00	0.07
	Short Term Loans					
16	State Bank Of India	500.00	1250.00	1000.00	750.00	48.76
17	Vijaya Bank	200.00	400.00	400.00	200.00	19.03
18	South Indian Bank	100.00	300.00	300.00	100.00	11.65
19	Bank of India	350.00	575.00	475.00	450.00	40.01
20	Syndicate Bank	100.00	100.00	100.00	100.00	9.92
21	Tamil Nadu Mercantile Bank	100.00	0.00	100.00	0.00	1.85
22	Indian Overseas Bank	650.00	300.00	950.00	0.00	41.48
23	Andhra Bank	0.00	500.00	200.00	300.00	21.33
	Short Term Loans-Sub Total	2000.00	3425.00	3525.00	1900.00	172.70
	Grand Total	**3699.35**	**4070.54**	**4016.38**	**3753.51**	**403.33**

Appendix – A22 : Details of the short-term loans availed for meeting capital liabilities (Rs Cr)							
Sl No	Short term loans	31.03.13	31.03.14	31.03.15	Received in 2015-16	Repaid in 2015-16	Balance as at 31.03.16
1	State Bank Of India	300	300	500	1250	1000	750
2	Vijaya Bank	200	200	200	400	400	200
3	Canara Bank	0					
4	SBT						
5	Federal Bank						
6	Bank of India	0	200	350	575	475	450
7	South Indian Bank	350	400	100	300	300	100
8	Syndicate Bank	0	0	100	100	100	100
9	Dhanalekshmi Bank	0	100	0			
10	REC - STL - 1	150					
11	REC - STL - 2	0					
12	PFC - STL - 1	250					
13	PFC - STL - 2	250					
14	KSPIFC - STL	26	26	0			
15	Tamilnad Mercantile Bank			100	0	100	0
16	Indian Overseas Bank		300	650	300	950	0
17	Andhra Bank				500	200	300
	Total	**1526**	**1526**	**2000**	**3425**	**3525**	**1900**

Appendix –A 23 : Details of short-term loan Interest from 2012-13 to 2015-16.								
	2012-13		2013-14		2014-15		2015-16	
Bank	Rate (%)	Amount (Rs.Cr)	Rate (%)	Amount (Rs.Cr)	Rate (%)	Amount (Rs.Cr)	Rate (%)	Amount (Rs.Cr)
SBI	10.40	30.76	10.15	30.96	10.15	44.03	9.45 & 9.50	48.76
SBT	10.75	10.00						
Canara Bank	10.75	1.12	10.75	3.61				
Federal Bank	10.75	21.47						
Vijaya Bank	10.65	20.66	10.25	20.01	10.25	20.13	9.65	19.03
South Indian Bank	11.00	26.44	10.50	30.12	10.50	19.73	10.00	11.65
REC STL	13.00	4.63	13.00	20.61				
PFC STL	12.50		12.50					
PFC STL	12.75	11.16	12.75	42.52				
KSPIFC STL	11.50	1.33	11.50	2.99	11.50	1.16		
Bank of India			10.50	9.07	10.50	43.07	9.75	40.01
IOB			10.25	2.16	10.25	48.54		41.48
Dhanalekshmi Bank			11.50	0.82	11.50	4.09		
Syndicate Bank					10.25	10.09	9.70	9.92
TMB					10.75	5.60		1.85
UBI								
Andhra Bank							9.75	21.33
Total		**127.57**		**162.86**		**196.44**		**194.03**

Appendix - A24 : Details of Overdraft from 01-04-2015 to 31-03-2016.								
No	Name of Bank	**OB**	04/2015	05/2015	06/2015	07/2015	08/2015	09/2015
1	SBT	491.73	432.06	588.22	321.17	314.75	317.32	418.81
2	Canara Bank	893.58	889.53	999.91	999.07	978.66	965.41	989.95
3	KGB Peroorkada	0.00	0.00	0.00	0.00	0.00	0.00	86.02
4	Federal Bank	445.47	498.49	139.54	494.30	499.58	495.70	434.45
5	Vijaya Bank	85.63	1.65	21.23	319.48	307.17	293.43	322.53
6	Union Bank of India	194.07	192.53	197.70	198.76	176.80	154.36	54.50
7	Syndicate Bank	0.00						
8	Dena Bank	0.00						
9	Total	2110.48	2014.27	1946.61	2332.81	2276.97	2226.23	2306.28

Continued.....

No	Name of Bank	10/2015	11/2015	12/2015	01/2016	02/2016	03/2016
1	SBT	525.06	401.53	402.30	433.34	399.52	420.37
2	Canara Bank	997.91	933.14	893.41	891.21	844.63	991.97
3	KGB Peroorkada	0.00	86.45	86.70	86.70	86.65	85.99
4	Federal Bank	231.81	22.58	443.03	494.33	495.46	156.11
5	Vijaya Bank	319.93	322.47	283.62	322.49	252.13	318.93
6	Union Bank of India	198.65	196.32	171.26	177.73	158.81	198.57
7	Syndicate Bank						0.00
8	Dena Bank						0.00
9	Total	2273.38	1962.51	2280.35	2405.81	2237.23	2171.94

Appendix – A25: Details of interest on Overdraft from 01-04-2015 to 31-03-2016.								
No	Name of Bank	04/2015	05/2015	06/2015	07/2015	08/2015	09/2015	10/2015
1	SBT	3.68	4.38	3.81	3.71	3.15	3.72	4.14
2	Canara Bank	8.02	8.47	7.91	8.41	8.16	8.08	8.17
3	KGB Peroorkada						0.02	0.19
4	Federal Bank	3.90	3.16	3.10	4.90	4.90	4.52	4.00
5	Vijaya Bank	1.02	0.58	2.50	2.69	2.46	2.59	2.63
6	Union Bank of India	1.68	1.62	1.58	1.76	1.83	1.34	1.48
7	Tamilnad Merch Bank					0.12		
	Total	18.30	18.21	18.90	21.47	20.62	20.27	20.61

Continued.....

No	Name of Bank	11/2015	12/2015	01/2016	02/2016	03/2016	Total
1	SBT	3.78	3.13	3.43	3.36	3.47	43.76
2	Canara Bank	7.78	7.21	7.72	7.14	7.55	94.62
3	KGB Peroorkada	0.45	0.71	0.70	0.66	0.70	3.43
4	Federal Bank	1.28	1.18	3.98	2.92	3.86	41.70
5	Vijaya Bank	2.54	2.12	2.86	2.28	2.29	26.56
6	Union Bank of India	1.95	1.36	1.58	1.56	1.45	19.19
7	TMB					0.05	0.17
	Total	17.78	15.71	20.27	17.92	19.37	229.43

Appendix – A26 : Details of approved and unbridged revenue gap as on 31-03-2015 (Rs. Cr)				
Year	Revenue gap approved	Less tariff revision	Net un-bridged revenue gap	Remarks
Gap till 2010-11			424.11	True up order 2010-11 dated 30.11.2012.
ARR 2011-12	928.62	No Tariff Revision	928.62	ARR Order dated 01.06.2011.
ARR 2012-13	1889.15	1257.13	632.02	ARR Order dated 28.04.2012.
ARR 2013-14	1049.91	588.93	460.98	ARR Order dated 30.04.2013.
ARR 2014-15	1094.78	615.50	479.28	ARR order dated 14.08.2014.
Total	4962.46	2461.56	**2925.01**	

Appendix – A27 : Comparison of the approved and actual revenue gap as per accounts			
Year	KSERC Approved (Rs Cr)	Actual (Rs Cr)	Difference (Rs Cr)
2011-12	928.62	1934.13	1005.51
2012-13	632.02	3999.14	3367.12
2013-14	460.98	1098.52	637.54
2014-15	479.28	1815.25	1335.97
TOTAL			**6346.14**

Appendix – A28 : Approved and unbridged revenue gap as per ARR and True up orders (Rs Cr)				
Year	ARR orders	True up orders	Difference	Remarks
2011-12	928.62	1386.97	458.35	True up order dated 16.03.2017.
2012-13	632.02	3132.97	2500.95	True up order dated 20.03.2017.
2013-14	460.98	195.50	-265.48	True up order dated 20.06.2017
Total	**2021.62**	**4715.44**	**2693.82**	Unbridged gap till 31.03.2014

Appendix –A29 : FIXED ASSETS AND PROVISION FOR DEPRECIATION 2015-16 AS PER ACCOUNTS (Rs Cr)								
No	**Asset Group**	**GROSS BLOCK**			**PROVISION FOR DEPRECIATION**			**NET BLOCK**
	Item	As on 31.03.2015	Additions	As on 31.03.2016	As on 31.03.2015	Depreciation for the year	Depreciation as on 31.03.2016	As on 31.03.2016
1	Land & Land Rights	1692.61	39.45	1732.06	0.00	0.00	0.00	1732.06
2	Buildings	666.52	10.44	676.96	260.24	16.49	276.73	400.23
3	Hydraulic Works	1164.02	6.38	1170.40	404.35	41.01	445.36	725.04
4	Other Civil Works	482.82	29.06	511.88	122.72	15.11	137.83	374.05
5	Plant & Machinery	15625.23	156.16	15781.39	2669.14	157.27	2826.41	12954.98
6	Lines, Cable, Network etc.	6836.91	485.70	7322.61	3275.21	255.73	3530.94	3791.67
7	Vehicles	18.96	1.40	20.36	14.25	0.51	14.76	5.60
8	Furniture & Fixtures	29.76	2.14	31.90	14.14	1.17	15.31	16.59
9	Office Equipments	91.21	7.71	98.92	39.99	3.93	43.92	55.00
10	Sub Total	26608.04	738.44	27346.48	6800.04	491.22	7291.26	20055.22
GFA as on 31.03.2014 include Rs. 1277 Cr under Land and Rs.10711.99 Cr under Plant on account of revaluation								

Appendix A-30 : Details of depreciation at CERC rates for FY 2015-16			
No	Category	ARR	Actual*
1	Land and Rights	0.00	0.00
2	Buildings	17.19	16.49
3	Hydraulic works	40.67	41.01
4	Other Civil works	14.37	15.11
5	Plant & Machinery	223.91	157.27
6	Lines, Cable networks	316.35	255.73
7	Vehicles	2.62	0.51
8	Furniture & fixtures	1.41	1.17
9	Office equipment	4.57	3.93
10	Total	621.09	491.22
11	Less: Deprn on Consumer contribution	25.58	
12	**Net Depreciation**	595.51	491.22

Appendix – A31 : Non Tariff Income for the year 2015-16 (Rs Cr)			
Particulars	2014-15	2015-16 ARR	2015 -16 Actuals
Meter Rent/Service Line Rental	143.82	91.00	90.13
Miscellaneous charges*	75.82	70.00	334.61
Wheeling charges & Reactive energy charges	17.27	0.00	0.19
Interest on Staff Loans and Advances	0.44	0.30	0.27
Interest on Advances to suppliers/ Contractors	1.36	0.75	1.59
Interest from Banks	62.18	60.00	9.64
Rebate Received	131.23	95.00	123.55
Income from sale of scrap etc	40.03	38.00	49.74
Miscellaneous Receipts	61.38	70.00	147.81
RE Charges			1.80
Income from investment			0.11
TOTAL	**533.53**	**425.05**	**759.44**
* *Misc Charges include UCM, Service connection fee, Fee for maintenance of Public lighting, Testing fee, Reconnection fee, Penalty charges, Minimum Guarantee charges, Charges for Service connection minimum, Meter Box charges, Power allocation charges etc.*			

Appendix - A32: Miscellaneous charge from consumers (Rs Cr)		
1	Recoveries For Theft Of Power	1.38
2	Collection towards compounding of offence	0.94
3	UCM	0.21
4	SC Fee, etc.	0.03
5	Other Items	41.62
6	TF/RF	16.06
7	Other Levies On Fee	260.26
8	LE/SC Minimum	2.09
9	Meter Box Charges	0.00
10	Processing Fee for Allocation	3.39
11	STOA - Registration and	0.09
12	STOA - Open Access charges	5.26
13	Application fee & registration fee for grid connectivity	1.36
14	Energization charges	1.93
	TOTAL	**334.61**

Appendix – A33: Miscellaneous receipts under other income (Rs. in crore)		
1	Gain On Sale Of Fixed Assets	0.01
2	Rental For Staff Quarters	0.33
3	Rental From Contractors	0.22
4	Rental From Others	10.25
5	Excess Found On Phy. Verification of stock	0.48
6	Maintenance charges for poles from cable TV operators	36.55
7	Infrastructure Development supervision charge	4.12
8	Recovery For Transport & vehicle expenses	0.00
9	Commission For Collection Of Inspection fee	0.03
10	Commission For Collection Of Ele. Duty	7.28
11	Commission For Collection Of Supply Surcharges	0.13
12	Security Deposits Forfeited	0.03
13	Receipts. from Sale Of Trees at project site	0.09
14	Receipts. from Usufructs Of Tress/ agricultural income	0.18
15	Receipts. From outsiders/student doing project work	1.50
16	Income / Fees for providing information to public	0.01
17	Storage and contingency charge on RAPDRP	0.10
18	Receipt of cost of DPR/DIR from Allottee of private SHPs developers	0.43
19	Revenue from Energy Audit	0.08
20	Rent from Office cum Complex of KSEB	0.27
21	Rent from optical fiber cable leasing	3.31
22	Clean Development Mechanism (CDM) benefit	0.04
23	From Consumers for CFL distribution under BLY Scheme	0.48
24	Other Misc. Revenue	81.77
	TOTAL	**147.70**

Appendix – A34 : Income from sale of scrap/tender forms (Rs. in crore)		
1	Hire Charges From-contractors	0.01
2	Sale Of Scrap	20.63
3	Sale of LED Bulb	25.76
4	Sale Of Tender Forms	3.34
	TOTAL	**49.74**