KERALA STATE ELECTRICITY REGULATORY COMMISSION

ANNUAL REVENUE REQUIREMENTS (ARR), EXPECTED REVENUE FROM CHARGES (ERC) AND TARIFF ORDER FOR KSEBL - 2014-15

Petition OP No.9 of 2014

August 14, 2014

KERALA STATE ELECTRICITY REGULATORY COMMISSION

Thiruvananthapuram

PRESENT : Shri. T.M.Manoharan, Chairman
Shri P Parameswaran, Member
Shri. Mathew George, Member

Petition OP No. 9 of 2014

In the matter of
ARR & ERC of the Kerala State Electricity Board Limited for 2014-15 and Revision of Tariff

14th August, 2014

Chairman & Managing Director
Kerala State Electricity Board Limited ……………. ***Petitioner***
Thiruvananthapuram

O R D E R

The Kerala State Electricity Regulatory Commission, after having scrutinized the petition for approval of ARR & ERC and the petition for revision of tariff for 2014-15 in OP No. 9 of 2014 filed by the Chairman and Managing Director, Kerala State Electricity Board Limited (KSEBL) as well as the subsequent written and oral submissions of the KSEBL, after having heard the views of stakeholders at Kozhikode on 30-6-2014, at Ernakulam on 2-7-2014 and at Thiruvananthapuram on 4-7-2014 and considered the written objections filed by them, after having consulted the State Advisory Committee and having considered other documents and materials on record; passes the following orders in exercise of the powers vested in it under the provisions of the Electricity Act, 2003 and the regulations made thereunder on this behalf.

Dated the fourteenth day of August 2014

Sd/-	Sd/-	Sd/-
P.Parameswaran	**Mathew George**	**T.M.Manoharan**
Member	**Member**	**Chairman**

Approved for issue

SECRETARY

CONTENTS

CHAPTER - 1

INTRODUCTION

1.1 The Chairman and Managing Director, Kerala State Electricity Board Limited (*hereinafter referred to as KSEBL or the licensee*) has, on 15.05.2014, filed in accordance with the KSERC (Tariff) Regulations 2003, its first the petition for approval of Aggregate Revenue Requirements (ARR) / Expected Revenue from Charges (ERC) and a petition for determination of Tariff for the Financial Year (FY) 2014-15, before the Commission. Prior to the filing of the said petition, the licensee had filed a petition for extension of time till end of February 2014 in order to incorporate the changes envisaged as per the transfer scheme approved by the Government necessitating changes such as re-valuation of fixed assets, additional equity infusion, creation of terminal benefit funds etc., After considering the request of the licensee, the Commission granted extension of time till 28-2-2014. Further to this, the licensee sought additional time for three weeks on two occasions in succession on the reason that the consultants for the licensee could not complete the works within the specified time. In both the occasions, the Commission granted extension and time till 11-4-2014 was allowed for submitting the petition.

1.2 However, the petition was filed only on 15-05-2014, and the Commission directed the licensee to explain the delay of 34 days in filing the petition and to file petition for condoning the delay. The licensee filed a petition explaining the delay of 34 days citing the delay in finalizing the studies on restructuring by the consultants and sought for condoning the delay. After considering the petition in detail, the Commission decided to condone the delay and to admit the petition for approval of ARR&ERC and the petition for determination of tariff for the year 2014-15 on 28-5-2014.

1.3 In the petition KSEBL has projected a revenue gap of Rs.2931.21 crore, out of which Rs.1423.63 crore was proposed to be made up by a tariff revision. Even after considering the tariff revision proposal, the unbridged revenue gap for 2014-15 was Rs.1507.58 crore, for which no definite proposal was submitted.

1.4 The Commission so far had issued eleven orders on ARR & ERC of the licensee starting from 2003-04, the abstracts of which are shown below:

Table -1.1

Details of ARR&ERC of KSEB Approved by The Commission

Year	Date of submission of ARR&ERC	Revenue Gap proposed by KSEB (Rs. crore)	Approved ARR (Rs. crore)	Approved Revenue (Rs. crore)	Approved revenue gap (-) /surplus (+) (Rs. crore)	Date of order
2003-04	1-8-2003	-926.08	3,697.37	3,141.37	-556.00	31-12-2003
2004-05	15-12-2003	- 854.19	3,492.46	3,196.00	-296.46	16-4-3004
2005-06	15-11-2004	- 492.25	3,367.32	3,316.01	-51.31	23-3-2005
2006-07	30-11-2005	-302.78	3,680.43	3,865.05	184.62	30-3-2006
2007-08	11-12-2006	-430.11	4,074.22	4,403.95	329.73	26-12-2007
2008-09	21-12-2007	-754.69	4,983.27	4,979.34	-3.93	19-4-2008
2009-10	29-12-2008	-1,099.28	5,316.30	4,981.00	-335.30	17-4-2009
2010-11	24-12-2009	-2,219.60	5,931.85	5,474.38	-457.47	17-5-2010
2011-12	01-02-2011	-2,208.31	6,512.73	5,624.92	-928.62*	21-11-2011
2012-13	31-12-2011	-3,240.25	7,986.39	6,097.24	-1,889.15**	28-4-2012
2013-14	03-01-2013	2758.67	9546.20	8496.29	-1049.91***	30-4-2013

**The revenue gap of Rs.887.81 crore assessed as per Order dated 1-6-2011 was revised to Rs.928.62 crore vide order No.RP9 of 2011 dated 21-11-2011*

*** The Commission approved a tariff revision for an amount of Rs.1586.17 crore (excluding bulk supply) on a full year basis in 2012-13 vide order dated 25-7-2012.*

**** The Commission approved a tariff revision for an amount of Rs.642.47 crore (excluding bulk supply) on a full year basis in 2013-14 vide order dated 30-4-2014*

1.5 The revenue gap of Rs. 556.46 crore for the year 2003-04 arrived at by the Commission was recommended to be bridged by way of exemption from payment of Electricity Duty amounting to Rs.182.56 crore and by availing a subsidy of Rs. 375 crore from Government. The revenue gap for the year 2004-05 was to be filled up by exemption from paying Electricity Duty under Section 3(1) and Section 4 of Kerala Electricity Duty Act, 1963 to the tune of Rs.200 crore and by providing the balance amount of Rs.96 crore by way of revenue subsidy by Government. The Commission in the ARR&ERC for 2005-06 had approved a revenue gap of Rs.51.31 crore, and allowed the licensee to continue the existing tariff and other charges, as the approved revenue gap of Rs.51.31 crore was less than 2% of the total revenue requirements

1.6 The truing up petition for 2003-04 & 2004-05 filed by the licensee was disposed of together by the Commission by allowing an amount of Rs.360.06 crore as combined revenue gap for said two financial years after adjusting the subsidy from Government. This revenue gap was adjusted against the revenue surplus of Rs.329.73 crore arrived at in the ARR&ERC for 2007-08 resulting in a net deficit of Rs.30.34 crore for 2007-08. Based on the petition filed by the licensee for revision of tariff, the Commission in the order dated

26-11-2007 revised the tariffs with effect from 1-12-2007. The increase in revenue due to tariff revision was estimated at Rs.69.79 crore for a full year and Rs.23.26 crore for the balance four months of 2007-08.

1.7 Against the revenue surplus of Rs.184.64 crore fixed for 2006-07, the Commission directed the licensee to file proposal for appropriate tariff revision. However, the licensee did not file the same. The Commission finalized truing up for the year 2005-06 by approving the revenue surplus of Rs.181.36 crore, which was adjusted against the revenue gap of Rs.335.30 crore approved for the year 2009-10. The Commission directed the licensee to file appropriate proposals for tariff rationalization for 2009-10 and accordingly KSEB filed a tariff petition on 24-07-2009, for an additional revenue of Rs.150.86 crore on a yearly basis. Other major highlights of the proposal were (a) introduction of non-telescopic tariff for domestic consumers with monthly consumption above 200 units, (b) 15% & 20% increase in demand and energy charges respectively for HT Commercial class, (c) 25% increase in bulk supply tariff (BST) to Licensees and (d) reduction to the tune of 10% of the tariff applicable to Kerala Water Authority (KWA). KSEB also proposed to rationalize the ToD tariff applicable to HT/EHT consumers and proposed a new ToD tariff for LT industrial consumers. The Commission in its order dated 2-12-2009 rejected the proposal on rationalization/revision of tariff proposed by KSEB for LT-I A(Domestic) and HT-IV (Commercial) since the proposals were against the provisions of the Act and would entail a tariff shock for certain group of consumers. Besides, the Commission noticed that on completion of the pending truing up proposals from 2006-07 onwards, the picture of deficit might change. The Commission also deferred the decision on the proposal on Bulk Supply Tariff of the small licensees. Subsequently, the Commission in its order dated 13-12-2010 increased the energy charges in BST by 15%. The Commission revised the Time of Day tariff for HT-EHT consumers to be effective from 1-1-2010. Maximum demand based tariff was introduced for LT IV Industrial and LT VII (A) & LT VII (C) consumers having connected load of and above 20 kW as an optional scheme. With a view to staggering the peak time load demand, an optional Time of Day tariff was also introduced for LT Industrial consumers who have opted for the maximum demand based tariff.

1.8 As indicated in Table - 1.1, the approved revenue gap for 2009-10 was Rs.335.30 crore. The same was adjusted against the revenue surplus after the truing up for 2005-06 (Rs.181.36 crore). There were also additional revenue deficits allowed for 2003-04 & 2004-05. The Commission arrived at the provisional revenue gap for 2010-11 as Rs.457.47 crore. The Commission had finalized the truing up for 2006-07 and arrived at a revenue surplus of Rs.1035.85 crore. This was adjusted against the revenue gap as follows:

Table -1.2
Revenue Gap/Surplus and Adjustment

	Rs. crore
Revenue gap for 2009-10	(335.30)
Revenue surplus after Truing up for 2005-06	181.36
Balance Revenue gap	**(153.94)**
Additional revenue gap allowed for 2003/04 & 2004/05	(73.87)
Provisional revenue gap for 2010-11	(457.47)
Total revenue gap	(685.28)
Revenue surplus after True up for 2006-07	1035.85
Net surplus	**350.57**
Add cash subsidy received from the Government	45.97
Less Fuel Surcharge (October 2009 to March 2010)	265.84
Less Fuel surcharge (April 2010 to September 2010)	115.58
Balance available	**15.12**

1.9 In the ARR&ERC Order for 2011-12, the Commission approved an Aggregate Revenue Requirement of Rs.6512.73 crore and a total Expected Revenue from Charges of Rs.5624.92 crore as against Rs.7815.77 crore and Rs.5607.46 crore respectively projected by the Kerala State Electricity Board. Accordingly, the Commission arrived at a provisional revenue gap of Rs.887.81 crore as against the revenue gap of Rs.2208.31 crore projected by the licensee.

1.10 The Commission issued the ARR&ERC order for 2011-12 with a provisional revenue gap of Rs.887.81 crore. The Commission has directed the licensee to file suitable proposals for bridging the revenue gap. However, the licensee did not file the proposal. The Commission has, in the mean time, issued the truing up orders for 2007-08 and 2008-09. In the Truing up for 2007-08, the Commission arrived at a revenue surplus of Rs. 1338.93 crore as against a revenue gap of Rs.91.28 crore as per the accounts. In the Order on truing up of accounts for 2008-09, the revenue gap arrived at was Rs. 429.62 crore against a revenue gap of Rs.749.17crore presented by the licensee based on the provisional accounts.

1.11In the mean time the Commission had *suo-motu* taken up the issue of disallowing depreciation on the assets created out of contribution and clawing back of such depreciation already claimed by the licensee and approved by the

Commission. The licensee had filed a review petition for considering the Government's capital in the licensee and allowing return there on in the light of Government Order dated 13-12-2010. Regarding depreciation, the Commission in its order dated 13-04-2012, decided as a general rule, that depreciation need not be allowed on assets created by any licensee in the State, out of contributions and grants. In the case of KSEB, this was made applicable from 2010-11 and the proposal for clawing back the depreciation already claimed by the licensee and allowed by the Commission up to 2009-10 was dispensed with. In the case of Return on Equity, pending a decision based on the report of the Consultant and the second transfer scheme, the Commission in its order dated 13-4-2012 decided to continue the practice of providing returns treating Rs.1553 crore as Government's equity capital in KSEB provisionally and to review the matter later.

1.12 Subsequently, the licensee had filed review petition on the Order on ARR&ERC for 2011-12 citing many grounds including erroneous estimation of hydro generation, O&M expenses etc.. However, the Commission disposed of the petition after correcting the arithmetical mistakes in the estimation of employee costs. Accordingly, the approved employee cost was revised by Rs.40.12 crore and thereby increasing the revenue gap for the year to Rs.928.62 crore from Rs.887.81 crore.

1.13 The Commission had also finalized the truing up petitions for the year 2009-10 and 2010-11 in its orders dated 25-10-2012 and 30-10-2012 respectively. The revenue gap for the year 2009-10 after truing up was Rs. 639.43 crore as against a revenue gap of Rs.1227.51 crore as per the audited accounts. Based on the petition from the licensee, the Commission has reviewed the orders on the truing up for 2009-10 in its order dated 28-10-2013 on the estimation of depreciation. Accordingly, the revenue gap for the year 2009-10 after truing up of accounts was revised to Rs.739.14 crore instead of Rs.639.43 crore mentioned in the original order. The revenue gap for the year 2010-11 was determined as Rs. 466.29 crore as against a revenue gap of Rs. 1283.79 crore as per the audited accounts. The summary of the adjustments made in the ARR&ERC orders in various years is given below:

Year	Adjustments
2007-08	The revenue surplus of Rs. 329.73 crore arrived at in the ARR&ERC Order, was adjusted against the revenue gap of Rs.360.60 crore arrived at after truing up of account for 2003-04&2004-05, the net deficit was Rs.30.34 crore
2009-10	The revenue gap of Rs.335.30 crore arrived at in the ARR&ERC Order was adjusted

	against surplus of Rs.181.36 crore arrived at after the truing up of accounts for 2005-06.
2010-11	After adjusting the revenue gap arrived at in ARR&ERC Order in 2009-10 (Rs.335.30 cr) against the revenue surplus of 2005-06 (Rs.181.36 crore), the net revenue gap was Rs.153.94 crore. This along with additional revenue gap of Rs.73.84 crore arrived at based on the order of APTEL in review of Truing up of accounts for 2003-04&2004-05. The net revenue gap, considering the provisional revenue gap of Rs. 457.47 crore arrived at in the ARR&ERC order for 2010-11, was Rs. 685.28 crore. This was adjusted against the revenue surplus of Rs.1035.85 crore arrived at after the truing up of accounts for 2006-07. The net surplus after these adjustments was Rs. 350.57 crore.
2010-11	The fuel surcharge of Rs.381.43 crore for two quarters was adjusted against the revenue surplus of Rs.350.57 crore.

The final position of revenue gap/surplus after the ARR&ERC orders and truing up is given below:

Table 1.3

Revenue Gap (-) / Surplus (+) Position up to 2013-14

Year	Revenue gap/Surplus (Rs. crore)						Remarks
	ARR Order	Actual as per accounts	Truing up	Subsidy Adjustment	Other Adjustments	Truing up final	
2003-04	-556.00	-1007.43	-931.32	556.46[a]		-374.86	Truing up Completed
2004-05	-296.46	-342.77	-281.13	222.06[a]		-59.07	--- do----
2005-06	-51.31	-144.57	181.36			181.36	--- do----
2006-07	184.62	-142.23	1035.85		-167.42[b]	868.43	--- do----
2007-08	329.73	-91.28	1338.93		-186.25[c]	1152.68	--- do----
2008-09	-3.93	-749.17	-429.62		-176.18[d]	-605.80	--- do----
2009-10	-335.30	-1227.51	-739.14			-739.14	--- do----
2010-11	-457.47	-1229.30	-466.29		-381.42[e]	-847.71	--- do----
Total	-1186.12	-4934.26	-291.36	778.52	-911.27	-424.11	
2011-12	-928.62						As per ARR&ERC order
2012-13	-1889.15[f]						As per ARR&ERC order
2013-14	-1049.91[g]						As per ARR&ERC order
Total	-5053.80	-4934.26	-291.36	778.52	-911.27	-424.11	

[a] *Rs.556.46 crore subsidy received from Govt in 2003-04 and adjustment of Electricity Duty of Rs.222.06 crore in 2004-05*

[b] *Adjustment of difference in RoE of Rs.167.42 crore for 2006-07 as per order dt.13-4-2012*

[c] *In 2007-08, adjustment of rebate given for traders for export of power Rs.18.83 crore and Rs.167.43 crore on difference in RoE*

[d] *In 2008-09, adjustment of Rebate given for traders for export of power of Rs.8.76 crore and Rs.167.43 crore on difference in RoE*

[e] *Adjustment of Fuel surcharge (Rs.381.42 crore)*

[f] *In 2012-13, approved revenue gap was Rs.1889.15 crore Tariff revision allowed effective from 1-7-*

2012 for Rs.1257.63 crore for 9 months (for full year Rs.1676.84 crore) and Fuel surcharge of Rs.146.62 crore (Oct to March), totalling to Rs.1404.25 crore. The estimated net revenue gap for the year would be Rs.484.90 crore

[g]In 2013-14, the approved revenue gap was Rs.1049.91 crore and Tariff revision allowed effective from 1-5-2013 for Rs.588.93 crore for 11 months. The estimated net revenue gap for 2013-14 would be Rs.460.97 crore only.

h. The revenue gap after truing up of accounts for 2009-10 was modified from Rs.639.43 crore to Rs.739.14 vide review order 28-10-2013

1.12 Based on the above, the substantial portion of the revenue gap has been made good by the tariff increase for two consecutive years.

1.13 In the ARR for FY 2014-15, the licensee has projected a revenue requirement of Rs.12057.62 crore and revenue receipts of Rs.9126.41 crore thereby leaving a revenue gap of Rs.2931.21 crore as shown below.

Table 1.4

Revenue Gap Proposed by KSEBL for 2014-15

Particulars	2012-13	2013-14	2014-15
	Approved	Approved	Projected
	(Rs. crore)	(Rs. crore)	(Rs. crore)
Aggregate Revenue Requirement	7,986.40	9,546.20	12,057.62
Revenue from sale of power	5,711.10	8,141.04	8,673.11
Non-Tariff revenue	386.14	355.25	453.30
Total Revenue	6,097.24	8,496.29	9,126.14
Revenue Gap	**-1,889.15**	**-1,049.91**	**-2,931.21**

1.14 Even after considering the impact of tariff revision of about 30% effected in 2012-13 and about , the licensee has projected a revenue gap of Rs. 2758.67 crore, which is about 34.5% of the revenue from revised tariffs. However, the licensee had proposed tariff revision for meeting a part of the proposed revenue gap ie., Rs.1573.54 crore leaving about Rs.1185.13 crore as unbridged revenue gap.

1.15 The revenue gap proposed by the licensee for the year 2014-15 second largest in the recent past. Even after allowing two substantial revisions in tariff, the projected revenue gap remains at staggering levels pointing out lack of concerted efforts for cost reduction. A comparison of the proposals in the previous years is given below:

Table 1.5
Comparison of ARR&ERC Proposed by KSEBL For 2010-11 To 2014-15

Items	2010-11	2011-12	2012-13	2013-14	2014-15	Increase over previous year	
	(Actuals)	(Actuals)	(Provisional)	(Approved)	(projected)		
	Rs. crore	Rs. crore	Rs. crore	Rs. crore	Rs. crore	Rs. crore	%
Generation & Power purchase	3,959.09	4,656.95	7,764.60	6,380.74	6,575.40	194.66	3.1%
Interest & Finance Charges	280.91	340.51	580.53	465.37	1,694.10	1,228.73	264.0%
Depreciation	473.43	465.99	509.31	371.45	585.50	214.05	57.6%
Employee Cost	1,712.80	1,903.32	2,103.03	1,803.81	2,042.25	238.44	13.2%
R&M Expenses	231.85	251.70	251.54	216.11	315.54	99.43	46.0%
A&G Expenses	174.56	202.72	202.43	94.97	240.65	145.68	153.4%
Other Expenses	-28.39	73.21	231.53	19.50	27.68	8.18	41.9%
Gross Expenditure	6,804.25	7,894.40	11642.67	9,559.73	11,767.03	2,207.30	23.1%
Revenue gap	**1,283.90**	**1,934.16**	**3,998.88**	**1,049.91**	**2,931.21**	**1,881.30**	179.2%

1.16 It can be seen that the revenue gap has inflated by about Rs.1800 crore compared to 2013-14, which is about 180% more than the approved figures for previous year. Main contributing elements are interest and financing charges (264%), depreciation (58%), R&M expenses (46%), and A&G expenses (153%) and employee costs (13%). This has to be viewed in the light of tariff revision of about 30% effected in 2012-13 and 7.7% effected in 2013-14. The revenue gap is contributed by overall increase in expenses, which is driven mainly by interest and financing charges on account of funding of pension liabilities, employee costs, and power purchase cost. The total expenses have increased by about 23%. *Prima facie* it can be seen that the increases in expenses over the years are much higher than the levels of inflation. Providing increase in tariff every year at the proposed rates would result in repeated tariff shocks to the consumers.

Procedural formalities

1.17 After admitting the petition, the Commission has placed the copy of the petition in the website and sought clarifications on various issues arising from the petition from the licensee vide letter dated 24-05-2014. The Commission vide 5letter dated 30-05-2014 informed all other licensees in the State on the tariff revision proposal of the licensee for obtaining comments from stakeholders. The Commission directed the licensee to publish the summary of the petition by giving time till 26-06-2014 for providing comments by the public and stakeholders. The licensee published the summary of the petition in the following dailies.

- Kerala Koumudi daily dated 5-6-2014
- Deshabimani daily dated 5-6-2014
- The New Indian Express dated 5-6-2014
- The Hindu daily dated 5-6-2014

KSEBL in its letter dated 18-6-2014 had furnished additional submissions on the main petition containing 'Proposals for Transmission charges, Wheeling Charges, Cross subsidy charges and Additional Surcharge for open access consumers, proposals for 'tariff re-categorisation', 'proposals for revising the existing meter rent', and the 'proposals for Pooled Cost of Power Purchase for the year 2014-15'. The said additional proposals were also published in the website. The Commission directed the KSEBL to publish the same for the information of the public and also issued press release on the matter. The Commission in its letters dated 10-07-2014 sought additional clarifications especially on the funding of terminal liabilities and employee costs. The licensee provided first set of clarifications vide its letter dated on 16-7-2014.

1.18 The list of persons who filed objections on the petition is given as Annexure –I. The Commission vide its letters dated 7-7-2014, and 18-7-2014 forwarded copies of objections received from the public for obtaining reply from KSEBL. KSEBL forwarded the reply to the objections which is given as Annexure – II

Public Hearings

1.19 Public hearings on the petition were held at three places as shown below

Date	Venue	Time
30-6-2014	PWD Rest House Hall, West Hill, Kozhikode	10:30 AM
2-7-2014	IMA House, Jawaharlal Nehru Stadium Road, Palarivattom P.O. Kochi	10:30 AM
4-7-2014	Institution of Engineers Hall, Vellayambalam, Thiruvanathapuram	11:00 AM

1.20 The lists of persons who attended the Public Hearings are given in Annexure III(a) and III(b).

Summary of Comments and Objections Raised in the Public Hearing

1.21 Several stakeholders have commented on the petition of the KSBEL for approval of ARR&ERC for 2014-15 and revision of tariff. Stakeholders in general objected to the revision of tariff. The stakeholders have commented on the lack of prudency in power purchase, inefficient operation and consequent cost escalation. Many of them strongly objected to the lack of planning and the practice of irrational purchase of power and transferring the cost of such inefficiencies to the consumers. Some stakeholders have the view that cost of re-organisation shall not be passed on to the consumers. Some of them insisted on the transparency in providing information. M/s Kanan Devan Hill Plantations Limited stated that there should be clarity on the transfer scheme. The changes in respect of terminal liabilities, revaluation of assets, creation of equity capital etc., have to be properly reflected in such a way that the values without the transfer scheme and with transfer scheme are to be given for proper understanding.

1.22 Representing Electricity Consumers Welfare Association, Shri. K. Anandakuttan Nair strongly objected to the petition of KSEBL as being defective. He stated that the ARR&ERC document itself is defective and hence the tariff petition based on such petition is also defective and not maintainable. According to him, the petition for approval of ARR&ERC has to be filed by distribution licensee and the filing including transmission charges, SLDC charges etc., is illegal and improper. The ARR&ERC of the distribution licensee should be filed as per the regulations issued by the Commission. As per the provisions of the Electricity Act, generation, transmission, distribution and SLDC are independent functions. The ARR&ERC of the distribution is a budget which should include a business plan detailing the ways and means subject to the conditions mentioned in the conditions of licence. It should also contain the plans for development of distribution infrastructure and shall not contain the plans for other wings. Undue attention is given to explaining the rationale for employee cost whereas the Commission has no authority to curtail the wages and salaries of employees. The entity has to take steps for eliminate the wasteful employee costs. Shri. Anandakuttan also suggested some measures for improving the employee productivity. According to him, the proposal for increasing meter rent and tariff shall not be accepted. However, according to him, even though the petition is defective, the necessary tariff revision may be allowed in public interest.

1.23 Shri. Shoufar Navas, Malappuram gave detailed account of his objections on the petition of KSEBL and requested that tariff revision for domestic consumers shall not be effected. According to him tariff revision based on the petition of the KSEBL is unreasonable and against natural justice. There was no tariff increase for 10 years and nothing happened for the Board. Now a days the Board gives irrational accounts of revenue gap and the Commission reduces an amount and then steep increase in tariff is allowed. Such practice questions the relevance of a statutory regulatory commission. The interest charges have been increasing over the years and also the arrears from large consumers. KSEBL should improve efficiency and reduce the costs. KSEBL has not taken any steps to comply with the directions of the Commission. The unscientific purchase of power and increasing inefficiency in KSEBL are increasing the cost to the consumers. No measures for improving the efficiency and reduction of employees through computerisation etc., are not being made. The extent of faulty meters is very high which results in revenue loss. There is no proper planning which led to failure to contract for corridor for purchase of cheaper power. There are no concerted efforts for improving generation. Shri. Navas hence stated that all the above leads to increase in costs and such cost increases due to the failure of the Board shall not be passed on to the domestic consumers as increase in tariff.

1.24 Shri. Sastamangalam Madan Pillai, representing the Council of Residents' Association stated that increasing the electricity charges is against public interest and the necessity of tariff increase is due to the poor performance of employees. He has pointed out the CAG report and its reference on the failure of the Board in proper planning and power procurement. The reliance on purchase of short term power and unplanned purchases of power have increased the cost of power substantially. Further the generation projects are not completed on time.

1.24 The representative of the Federation of Residents' Association Thiruvananthapruam (FRAT) Shri. Bhaskara Panicker, stated that if the arrears are collected the tariff revision sought by the KSEBL can be avoided. The reason for loss made by KSEBL is purely due to its inefficiency and he suggested to appoint an expert committee to examine the matters relating to the Board.

1.25 According to M/s MRF, the KSEBL should have long term plan to avoid frequent tariff shocks by increasing the generation and transmission capacities, long term power purchase plans and reduction in O&M expenses. Resident's Apex Council Kozhikode stated that the cost increase due to inefficiency of the Board should not be loaded on to the consumers. Shri

Ravi, Aluva and Shri. Girijan K, Aluva stated that lack of professionalism in KSEBL is the reason for loss making.

1.26 The Kerala HT-EHT Industrial Electricity Consumers Association (HT-EHT Association for short) in their objections stated that the argument of KSEBL that the transfer scheme as per the provisions of Section 131(3) is binding on all persons including the Commission is not correct and should not be accepted. In support of the argument that the transfer scheme is not binding on the Commission, the Association has cited the decisions of APTEL and Hon. Supreme Court in this regard. The Association further argued that the return on equity and depreciation shall not be allowed on revalued assets and artificial equity. The consumer contribution and grants were also removed from the balance sheet and this shall not be allowed. It is not clear from the petition that how the government contribution will be adjusted for funding the liabilities. Hence the Commission should ensure the funding by the Government for the pension liabilities. The Association pointed out that equity of KSEBL as per the information from Registrar of Companies is only Rs.5 lakhs. There is no clarity in the transfer scheme and upvaluation of assets as the petition provides for Rs.4000 crore as well as Rs.4990 crores. The revaluation is created without revaluation reserves. The KSEBL has so far not issued the bonds and hence the request for interest on the bonds should be rejected. The return on equity claimed by the Board is for an amount of Rs. 3499 crore, which is only a notional figure with no cash infusion, for which return is claimed at 15.5%. KSEBL is now performing as a single bundled entity, as a generating company, distribution licensee and transmission licensee with SLDC under it. This is against the provisions of the Electricity Act, 2003. M/s Binani Zinc limited, M/s FACT, endorsed the objections of the Association.

1.27 KSEB Officers Association stated that the main feature of the ARR&ERC for 2014-15 is the inclusion of the impact of the transfer scheme which now reflects the correct level of assets and also accounted the unfunded liabilities of the Board. Hon. Supreme Court has defined pension as the deferred salary and it is the obligation of the company to provide for pension for their pensioners. The pension liabilities are not completely included in the ARR&ERC and 36% of the liability is taken over by the Government. The argument that the additional equity is not part of the new scheme cannot be accepted as there have been investments in the past in generation and transmission and if the normative equity is considered at 30%, it will be more than Rs.3499 crore. The electricity duty after 1998 has been reinvested in the Board, if such amounts are considered the equity contribution will be much more than the amount mentioned. At present there is stagnation in the development of electricity sector in the State and there is large dependence in purchase of power. There is every chance that the state is moving towards deficit in electricity. The Government should strongly intervene in the completion of transmission corridors.

1.28 Representatives of Friends of Electricity Employees and Consumers represented that reforms in power sector is aimed at making the sector financially viable ensuring reasonable profit. The revenue gap expected in 2014-15 is 105% more than that in the previous year. This means reasonable tariff increase is to be provided for bridging the revenue gap. The tariff of KSEBL should be determined in such a way that it should work on commercial principles. According to them, the increase in tariff should reflect improvement in services.

1.29 KSEB Engineers Association requested for considering the opening balance sheet furnished by the KSEBL and the recasted balance sheet after the actuarial valuation needs to be accepted. According to the Association, power purchase cost, employee cost, R&M cost etc., should be allowed without any reductions and if the power purchase cost is increasing, the same has to be allowed. The association has also suggested tariff rationalisation measures for improving the system.

1.30 The objections of Southern Railway was presented by Shri.B.V. Chandrasekher. He stated that the operating ratio of southern railway is always more than 100% showing the loss making proposition. In comparison with alternate mode of travel by bus, the railways are cheaper in terms of fare as well as saving of time. The traction load consumes about 1% of the electricity supplied by KSEB and contributes about 1.5% of revenue thus a acting as a subsidising consumer. The cross subsidy at EHT level has to be decreased where as it is increasing over the year. The ARR demanded by the KSEBL is 26.31% more than the approved ARR for 2013-14, whereas the sales is projected to increase only 0.35%. Thus, there is no need to buy high cost energy. The average cost has been increasing abnormally and in 2014-15 the increase is 25%, whereas the average rate of inflation is only 9.56%. Hence a close scrutiny of the ARR is required. The cost at 110kV transmission is reducing over the years, whereas the tariff is increasing over the past few years. The proposed rates are also high in comparison with EHT 110kV. The

Railways also requested for 10% reduction in tariff for demand and energy charges for newly electrified routes. The railways also wanted to have net metering facility as new WAP9 traction locomotives are capable of generating energy to the tune of 15 to 20%. The railways also demanded the corrections/appropriate adjustments in MD during feed extensions.

1.31 Shri. Satheesh representing M/s Carborandum Universal stated that the tariff increase required for meeting the projected revenue gap is 36%, whereas the tariff increase proposed is only 16%. The Domestic consumers should not be penalized for the inefficiency, lack of planning of KSEBL and their mismanagement on expense without any controls. The tariff proposal for consumers having consumption of 200 units unreasonable as they have to pay Rs.760 as energy charge alone, without duty, fixed charge or meter rent. There should be incentive for prompt payment, encouragement of solar generation and prepaid meters for consumers having connected load more than 10kW. The tariff proposed for HT IVB is irrational and such concessions shall not be allowed. The proposal of the Board to introduce the concept of responsible consumer is in fact a penalisation and not a concession. KSEB has not taken any steps for computing category wise cost, even with repeated directives from of the Commission and further the cross subsidy reduction plan has not been published.

1.32 Standing council of trade unions, which is an association of all trade unions in the industrial belt in Ernakulam, opposed to the proposal for increase in tariff. According to the Council, the revaluation of assets and the pension liabilities should be taken over by the Government and should not be loaded on to the consumers. The ARR&ERC prepared by the KSEBL is completely unscientific and hence the proposals for tariff revision should be rejected. All Unions of employees and officers Union of Travancore Cochin Chemicals, Hindustan Paper Corporation employees Association and Kerala Newsprint Employees Union stated that revaluation of assets without any basis should not be allowed. Further write off of consumer contribution and grants is also not proper and it should not be loaded on to the tariff. The unfunded liabilities of the KSEBL should be loaded to the government and not to the consumers.

1.33 Another representative of FRAT Shri. Pattom Sasidharan Nair stated that the KSEBL has failed in planning and the inefficiency as well as extravagance has caused the revenue gap. The lack planning in power purchase and dependence on short term power are the reasons for revenue gap.

1.34 Shri. Parameswaran, Nedumangad stated that inefficiency is the reason for increase in revenue gap of the KSEBL. The KSEBL has failed to avail open access for drawing cheaper power and the Tamil Nadu has availed the entire open access. The failure of the KSEBL in this regard is to be noted. The KSEBL could not complete the projects which are started and it has no plans to complete the projects either.

1.35 Advocate Shri P.K. Saidu mentioned that tariff revision may be effected as needed, but the service quality has to be improved commensurate with it. He also mentioned that those who use electricity in higher consumption brackets needs to be charged high.

Deliberations in the Advisory Committee

1.36 The Commission convened the 27th State Advisory Committee meeting on 25-6-2014. The Advisory Committee discussed the ARR&ERC of KSEBL for the year 2014-15 and tariff petition in detail the meeting held at Thiruvananthapuram. The minutes of the meeting of the State Advisory Committee is given as Annexure –IV. Though there were divergent views among the members, the committee in general expressed the view that the tariff revision has to be in line with the socio-economic conditions of the consumers in the State, which requires subsidy or cross subsidy. The need for cost control and planning has been stressed by the some of the members. Some of the members expressed view that the impact of the transfer scheme is to be taken over by the Government.

1.37 As per para 5(1) of the Kerala Electricity First Transfer Scheme, 2008 issued by Government of Kerala vide Order dated 25-9-2008, all interests, rights in properties, all rights and liabilities of the licensee were vested in the State Government to be administered by the Government in the name as ‘Kerala State Electricity Board’ by appointing a Special Officer and a Managing Committee for this purpose till the date of re-vesting, to be notified by the State Government as provided in sub-section (2) of section 131 of the Act. In continuation of the above, the Government has notified Kerala Electricity Second Transfer Scheme (Re-vesting) 2013 vide GO (P) No. 46/2013/PD dated 31st October 2013. Through this notification all the assets, liabilities, rights and obligations of KSEB vested in State Government by First Transfer Scheme were re-vested in new successor entity i.e. Kerala State Electricity Board

Limited n(KSEBL) w.e.f 31st October 2013. The important provisions in the Second Transfer Scheme are given below:

a) The new company viz., KSEBL shall manage the activities of Transmission, Generation and Distribution through three strategic business units SBU – T (Transmission Unit), SBU – G (Generation Unit) and SBU – D (Distribution Unit).
b) The effective date of revesting or transfer is 31st October 2013 i.e. the date of publication of Second Transfer Scheme in the Official Gazette.
c) The Government has drawn up an opening balance sheet for KSEB Limited as on 1st April 2012. The adjustments if any will be made before 31st October 2014.
d) All the employees shall remain on the rolls of the Kerala State Electricity Board Limited who shall be responsible for their pay, benefits and other service conditions. The personnel needed by the SBUs shall be deputed to them and their cost shall be accounted as part of the cost of the SBUs.
e) A Master Trust will be established and all the future pension liabilities will be met by this trust. As per actuarial valuation carried out, the provisional figure of unfunded terminal liability is approximately Rs. 7584 Crores as on September 2011. As per the Second Transfer Scheme this terminal liability will be funded through two series of Bonds to be issued by the Company KSEBL as shown below:
    - 20 year bond with a coupon rate of 10% p.a. for Rs.5021 Cr (Five thousand and twenty one crores)
    - 10 year bond with a coupon rate of 9% p.a. for Rs. 2039 Cr (Two thousand and thirty nine crores).

   For this bond, debt obligations will be made by GoK. The State Government will fund Rs. 3186 Cr (Rupees three thousand one hundred and eighty six crores) over a period of next 10 years to Kerala State Electricity Board Limited on annual basis for meeting the interest expenses and repayment for this bond
f) The Government have also taken over another Rs. 524 Cr (Rupees five hundred twenty four crores) through budgetary provision over next 10 years in equal installments as per GO (MS) No. 43/2011/PD dated 3rd November 2011.

g) In addition to the interest on bonds and repayment of principal, Kerala State Electricity Board Limited will be paying the annual pension contribution based on actuarial valuation to the Master Trust in respect of the personnel transferred to Kerala State Electricity Board Limited The unfunded liability up to the date of transfer will be borne and shared between the State Government and the Kerala State Electricity Board limited. Any addition over and above the liability of Rs.7584 Cr (Rupees seven thousand five hundred and eighty four crores) accruing upto to the date of transfer will be borne and shared by the State Government and the Kerala State Electricity Board Limited in the ratio of 35.4:64.6.

h) Actuarial valuation of terminal liabilities at the time of transfer will be made during the provisional period and necessary arrangements will be made by the Transferee and the State Government to ensure the sufficiency of funds for uninterrupted payment of terminal benefits.

1.39. The Commission has engaged M/s ABPS Infrastructure Advisory to study and recommend the changes on account of transfer scheme of KSEBL including the experience in other states and recommended approach to be adopted by the Commission. The Consultant in their initial report has suggested the following:

a) Gross Fixed Assets : The gross fixed assets as per notified Transfer Scheme (i.e., Balance Sheet as on 01.04.2012) have been up-valued by Rs. 4000 crore. Other SERCs under consideration have largely adopted the GFA as per the notified Transfer Scheme, irrespective of whether revaluation has been done or whether original GFA has been considered in the Transfer Scheme. It is observed that the Gross Fixed Assets have been up-valued to accommodate increase in liabilities, including increase in the equity base. It is also important to consider that the consumers have already paid for such assets through depreciation, interest and return on equity, and most of these assets have outlived their original useful life, especially, the hydro generating stations. However, under the Companies Act, 1956, depreciation has to be charged on the re-valued asset base, and on the liability side only a revaluation reserve is allowed to be created, and the equity capital cannot be enhanced by virtue of the revalued asset base. Hence, the Consultant recommended that the Commission should not approve the up-valuation of Gross Fixed Assets for the purposes of ARR and tariff computation.

b) Consumer Contribution & Grants : Regarding Consumer Contribution and Grants, it is stated that Rs. 3618.61 crore have been completely adjusted as per notified Transfer Scheme (i.e., Balance Sheet as on 01.04.2012), thereby increasing the GFA by Rs. 3618.61 crore, which is entitled for corresponding depreciation and returns. According to the consultant other SERCs under consideration have largely adopted the GFA as per the notified Transfer

Scheme, irrespective of whether Consumer Contribution & Grants have been adjusted or whether Consumer Contribution & Grants have been retained in the Transfer Scheme. The consultant has stated that the adjustment of the Consumer Contribution & Grants as per notified Transfer Scheme, has been done to accommodate increase in liabilities, including increase in the equity base. It is important to consider that the Consumer Contributions & Grants are amounts that have been contributed either by the consumers or by the Government. State Government had given funds as grants for creation of assets. Since, depreciation is a source of funds for repayment of loans and is not to be used as a source of funds for replacement of assets, it is not appropriate to allow depreciation on assets created out of Consumer Contribution & Grants, and hence, they have suggested that the adjustment of Consumer Contribution & Grants done under the Transfer Scheme should not be considered by the Commission for the purpose of computing depreciation. Similarly, returns cannot be allowed on funds that have not been invested by the regulated entity in creation of assets, and hence, it is not appropriate to allow returns on Consumer Contribution & Grants, and hence, the adjustment of Consumer Contribution & Grants done under the Transfer Scheme should not be considered by the Commission for the purpose of computing returns. Hence, they recommended that the Commission should consider the Consumer Contribution & Grants as per the Balance Sheet of the erstwhile KSEB, for the purposes of ARR and tariff computation.

c) Equity Capital and Returns : In the case of equity capital, they have stated that the equity base has been increased from Rs. 1553 crore to Rs. 3499 crore as per the notified Transfer Scheme (i.e., Balance Sheet as on 01.04.2012), thereby increasing the equity capital by Rs. 1946 crore, which is entitled for corresponding returns. However, according to the Consultant this is a pure balancing amount, and there has been no actual additional equity infusion into KSEBL. The consultant stated that some SERCs under consideration have adopted the equity capital as per the notified Transfer Scheme for the purpose of computing Return on Equity/Capital Base, whereas some SERCs have not allowed any returns, either because the Utility did not seek any returns or because there were no free reserves and surplus as per the notified opening Balance Sheet. Gujarat Electricity Regulatory Commission (GERC) has considered a lower rate of return on the equity capital as notified under the Transfer Scheme. In the case of KSEBL, the consultant stated that it is a pure balancing amount, which has been made possible by increasing the asset value through revaluation, and eliminating the

Consumer Contribution & Grants used to fund the capital investment, and by showing a reduction in the Regulatory Assets as per the books of KSEBL. If any or all of the other adjustments are not considered for the purpose of ARR and tariff determination, on account of being inappropriate, then the equity capital to be considered would be reduced. Further, in the case of new capitalisation, RoE is allowed only when actual equity is infused into the Company for incurring capital expenditure, else only interest is allowed on the loan component. According to the consultant even under the Companies Act, 1956 and the relevant Accounting Standards, the Revaluation Reserve is not allowed as a source to increase the equity capital, and only actual paid up equity capital is considered for all purposes. Hence, they recommended that the Commission may allow RoE either on the equity capital allowed earlier by the Commission or on the reduced equity capital of Rs. 283.91 crore (Rs. 1553 crore - Rs. 1269 crore).

d) Long-Term Loans and Terminal Liability Funding : According to the consultant, the contribution to terminal liabilities of Rs.8521.93 crore has been created as per the notified Transfer Scheme (i.e., Balance Sheet as on 01.04.2012), thereby increasing the borrowings on which the interest will have to be allowed. All SERCs, except PSERC (of the SERCs under consideration) have adopted the outstanding loan amount as per the notified Transfer Scheme for the purpose of computing interest expenses. As regards the interest expenses on account of the Bonds to be issued to the Master Trust for meeting the terminal liabilities as per notified Transfer Scheme, payment of terminal liabilities is a statutory obligation and it would be appropriate to allow the interest on these Bonds in the ARR and tariff. However, the corresponding expenses would have to be reduced from the employee expenses being allowed by the Commission, since the employee expenses allowed in earlier years also include the component of terminal liabilities, as actually incurred. Since the Master Trust is yet to be created and the bonds are yet to be issued, and it may be expected that the bonds may be issued by September 2014, i.e., the interest expenses on the bonds would be payable only for half of FY 2014-15. Under this circumstances, they suggested that the Commission may take a view whether the entire interest expenses on the Bonds should be allowed, or whether 50% of the same should be allowed, with the actual expenses under this head being allowed for the first half of FY 2014-15. In case the entire interest expenses on the bonds is allowed in the tariff order, then the actual expenses on this account may be trued up later.

1.40 The Commission has considered the views of the consultant in this regard on various issues. The Commission is of the view that disallowance of the adjustments in the transfer scheme may derail the process of corporatisation and entire objective of re-organisaiton of the Board as envisaged under the Act. The cleaning up of balance sheet is necessary to operationalise the company so that the new company can start the operations on a clean slate. Hence, the Commission is not in a position to fully accept the views of the consultant regarding up-valuation of assets and corresponding adjustments in the equity. The KSEBL as stated that they have not claimed separate amount for repayment liability towards master trust and the same will be met through return on additional equity. Hence it is only reasonable to consider such claims in the ARR. However, the Commission is concurring with the views of the consultant on depreciation on assets created out of consumer contribution and grants.

1.41 Considering the revesting of the assets and liabilities of erstwhile KSEB in the new company and other conditions mentioned above, the Commission has considered the same in this order. Accordingly, after considering all the statutory provisions, the views of the State Advisory Committee, the stakeholders and of the licensee, and after complying with all the due principles procedures envisaged under the Act and the relevant regulations made thereunder, namely

a. KSERC (Tariff) Regulations, 2003
b. KSERC (terms and conditions for retail sale of electricity) Regulations, 2006
c. KSERC (terms and conditions of tariff for distribution and retail sale of electricity under MYT framework) regulations 2006

The Commission has taken the decision on the proposal for approval of the ARR & ERC and tariff petition of KSEB Limited for 2014-15 as detailed in the subsequent chapters.

CHAPTER - 2

PROJECTIONS OF ENERGY SALES

Sales Projections

2.1 The estimates of energy sales for the year 2014-15 was made by KSEBL based on the past data, existing consumer strength, new services proposed, increase in specific consumption, regional characteristics of the consumers, seasonal variations and change in consumer habits. The expected addition to number of consumers and measures for energy conservation were also taken into consideration while projecting sales for 2014-15. KSEBL has also considered the re-categorisation and additional consumer categories ordered in the tariff order dated 30-04-2013 for 2013-14. A new consumer category viz EHT Non industrial, was also introduced in the said order. According to KSEBL, all these factors were taken into consideration for projecting the sales for 2014-15.

2.2 The energy sales during 2012-13 were steady though restrictions were imposed on consumption due to failure of monsoon and reduced availability of power from Central Generating Stations. Despite the restrictions, the consumption had increased by 5.3% in 2012-13. The consumption of LT categories has increased more than the average growth rate whereas the rate of growth of sales to HT categories was lower during 2012-13. The share of sales of domestic consumers continues to dominate with about 49.37% followed by HT-EHT category (27.2%) and LT commercial category (13.21%). The first two months of 2013-14, (April and May 2013) had restrictions in use of power, but the generous rainfall later in 2013-14 had reduced the growth in consumption in that year. The licensee has stated that the projection on energy sales for 2013-14 was made based on the half yearly sales in 2013-14. The growth rate for 2013-14 was estimated at 4.31%. KSEBL has estimated the increase in sales to LT consumes at 5.15% and that of HT consumers at 2.05% compared to the year 2012-13. The revised energy sale expected for 2013-14 is 17563 MU. The noticeable feature in the consumption pattern is the significant deceleration in sales to commercial category – HT as well as LT - over the previous year. According to KSEBL, this trend was visible for HT IV category in 2012-13 also.

Table 2.1

Estimates of energy projections for the year 2013-14 by KSEBL

Category	2011-12	2012-13	Increase over previous year	2013-14	Increase over previous year
	(MU)	(MU)		(MU)	
LT category					
Domestic	7,705.86	8,313.36	7.9%	8,779.42	5.6%
Commercial	2,141.22	2,224.06	3.9%	2,342.04	5.3%
Industrial	1,097.04	1,101.96	0.4%	1,132.59	2.8%
Irrigation & Dewatering	286.18	306.08	7.0%	313.62	2.5%
Public Lighting	294.26	313.20	6.4%	322.14	2.9%
LT Total	**11,524.56**	**12,258.66**	6.4%	**12,889.81**	5.1%
HT Category					
HT I Industrial	1,595.68	1,682.95	5.5%	1,719.39	2.2%
HT II Non Industrial Non Commercial	115.86	125.45	8.3%	127.00	1.2%
HTIII -Agriculture	8.11	8.35	3.0%	8.53	2.2%
HT IV- Commercial	866.62	870.81	0.5%	874.01	0.4%
EHT 66/110/220 KV	1,243.12	1,217.59	-2.1%	1,233.31	1.3%
Railway Traction	154.49	173.67	12.4%	199.53	14.9%
Bulk supply	472.09	500.76	6.1%	511.58	2.2%
HT &EHT total	**4,455.97**	**4,579.58**	2.8%	**4,673.35**	2.0%
Grand Total	**15,980.53**	**16,838.24**	5.4%	**17,563.16**	4.3%

2.3 In the petition, KSEBL stated that it is proposed to give 4 lakh connections in 2014-15. Considering the past growth of sales and energy conservation measures proposed to be initiated, the sales projected by KSEBL for the ensuing year 2014-15 is 18494MU as shown below.

Table 2.2

Energy Sale Projected by KSEBL for the Year 2014-15

Sl No	Category	2013-14 (Revised Estimate) - MU	2014-15 (Projected) - MU	Increase over previous year (%)
I	LT category			
1	LT I(a)Domestic	8761.08	9331.38	6.51
2	LT II Colony	15.34	16.40	6.91
3	LT-IV Industrial	1132.59	1166.57	3.00
5	LT-V Agriculture	313.62	318.92	1.69
6	LT- VI Non-Domestic	596.60	639.63	7.21
7	LT VII Commercial	1674.84	1796.36	7.26

Sl No	Category	2013-14 (Revised Estimate) - MU	2014-15 (Projected) - MU	Increase over previous year (%)
7	LT VIIII General	70.6	72.13	2.17
8	LT IX Public Lighting	322.14	333.17	3.42
	Sub-total LT	12886.81	13674.56	6.11
II	HT &EHT			
1	HT-I Industrial	1719.39	1776.82	3.34
2	HT-II	127	129.85	2.24
3	HT-III Agriculture	8.53	8.71	2.11
4	HT-IV	603.02	622.28	3.19
5	HT V	270.99	272.55	0.58
	HT Total	2728.93	2810.21	2.98
6	EHT-I	325.09	334.00	2.74
7	EHT-II	761.37	778.00	2.18
8	EHT-III	87	90.18	3.66
9	EHT Non Industrial	59.85	68.11	13.80
	EHT Total	1233.31	1270.29	3.00
	HT&EHT Total	3962.24	4080.50	2.98
10	Railway Traction	199.53	209.26	4.88
III	Bulk supply	511.58	527.12	3.04
	HT &EHT &Bulk supply Total	4673.35	4816.88	3.07
	NPG	3	3	0.00
	Grand Total	17563.16	18494.44	5.30

2.4 The overall growth projected is about 5.3% over the revised estimate of 17563MU in 2013-14.

Objections of Stakeholders:

2.6 The KSEB Officers' Association is of the view that the sales projection in the ARR is not sufficient considering the demand growth from April to June. Shri. Radhakrishnan and representing the domestic consumers and Shri. Satheesh representing M/s Carborandum Universal stated considering the demand in 2013-14, the sales growth may be lower in 2014-15 and which may lead to reduction in power purchase cost.

2.7 The HT-EHT Association based on the figures given in previous years stated the KSEBL is projecting higher sales and the actual sales are low. The average over estimation is to the tune of 2% per year. According to the Association, sales will be about 18319MU only after appropriately adjusting the over projection of KSEB. According to the Association, KSEBL also underestimates the sales projection in LT and HT commercial thereby revenue compared to the average growth from 2007-08 to 2012-13.

Analysis of the Commission

2.8 The Commission has analysed the growth projections given in the petition. It is noticed, as had been mentioned earlier too, the method of estimation of sales for the ensuing year is not clearly provided by KSEBL, except the descriptive methodology. The Commission has obtained the actual sales for 2013-14. As mentioned by KSEBL, there is a definite deceleration in growth in sales mainly in commercial categories in the recent past. The growth momentum experienced over the last few years has been dampened in many categories. The annual growth rates in various consumer categories are shown below:

Table 2.2
Growth Rates of Energy Sales

LT Category	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15 (projections)
Domestic	10.6%	4.9%	11.8%	8.1%	5.3%	6.8%
Commercial	19.4%	8.9%	9.7%	3.9%	-0.2%	13.0%
Industrial	4.8%	-1.0%	4.2%	0.5%	-0.5%	6.4%
Agricultural	14.2%	-9.7%	23.3%	7.0%	-0.3%	4.5%
Street Lights	3.1%	-12.5%	10.9%	6.5%	2.5%	3.8%
Sub total LT	11.3%	4.0%	11.0%	6.4%	3.6%	7.7%
HT I	9.4%	4.6%	5.3%	5.4%	5.2%	0.3%
HT II	9.3%	-12.8%	13.7%	8.1%	5.1%	-1.5%
HT-III	-11.1%	2.5%	-2.4%	4.4%	-9.6%	15.4%
H- IV	19.7%	9.1%	14.6%	0.6%	1.2%	1.5%
EHT 66/110	18.9%	2.8%	5.2%	-2.0%	2.2%	2.1%
Railway Traction	16.2%	-5.5%	-1.3%	12.8%	14.9%	0.6%
Bulk Supply	30.3%	8.5%	5.4%	6.1%	4.5%	0.8%
Sub total HT	15.9%	4.3%	6.9%	2.8%	3.9%	1.1%
Total	12.6%	4.1%	9.8%	5.4%	3.6%	5.9%

2.9 As shown above, there is declining growth in many categories especially after 2011-12. The LT as well HT commercial sales have been substantially lower, whereas the domestic and HT-I industrial growth rate is steady. However, KSEBL has estimated a growth of 5.9% over the *actuals of the previous year (5.3% over the estimated sales in 2013-14)*. In the previous years, the Commission has observed that there was a flattening trend in demand. However, due consideration is to be given to the fact that higher disposable income and increasing consumerism in the State may result in remarkable growth of the tertiary sector including hospitality and other service sectors.

2.10 It is also presented in the petition that, KSEBL is experiencing a lower demand growth for HT IV commercial category. Though the licensee has recognized the moderation of sales, the growth projections made for the commercial category for 2014-15 does not reflect such deceleration. The Commission based on the details provided by KSEBL, inclined to accept the projections without any change. Accordingly for 2014-15 the total demand of 18494MU projected by KSEBL is accepted by the Commission for the purpose of approval of ARR&ERC.

CHAPTER – 3

REVIEW OF CAPITAL EXPENDITURE

Introduction

3.1 As per the projections of KSEBL, the total investment of Rs.8662.53 crore in generation, transmission and distribution business units in 12th Five Year Plan is already decided with a view to increasing generation, reducing T&D loss, improving performance and quality of service thereby providing reliable power at affordable cost to consumers. Though investment plan for 2013-14 was fixed at Rs.1521.45 crore, it was later revised to Rs.1157.95 crore due to financial contingency. In 2014-15, KSEBL proposes to invest Rs.1300 crore. The details of proposed outlay is given below:

Table 3.1

Details of proposed and revised capital expenditure programme

Particulars	2013-14		2014-15
	Target as per ARR petition (Rs. Cr)	Revised outlay (Rs. Cr)	Proposed Outlay (Rs. Cr)
Generation	419.45	256.48	332.00
Transmission	293.00	192.47	255.00
Distribution	800.00	700.00	700.00
Others	9.00	9.00	13.00
Total	**1521.45**	**1157.95**	**1300.00**

3.2 In generation sector, the proposed capital investment is for Rs.190 crore for ongoing projects and Rs.30.50 crore for new projects. The total investment proposed under generation is Rs.332.00 crore. The details of ongoing projects and new generation projects are as shown below:

Table :3.2

Details of the ongoing projects

Sl. No.	Name of Project	Capacity	Energy	Project cost	Revised outlay for 2013-14	Date of commencement	Target date of completion	Physical progress as on 30.09.13	Proposed outlay for 2014-15
				As per work order					
		(MW)	(MU)	(Rs.Cr)	(Rs.Cr)			(%)	(Rs.Cr)
1	Vilangad	7.5	22.63	59.49	18.00	08/03/10	Jun-14	85.57	10.00
2	Barapole	15	36.00	98.38	25.30	05/09/10	Oct-14	61.71	20.00
3	Kakkayam	3	10.39	26.07	8.00	19/03/11	Dec-14	48.00	10.00
4	Adyanpara	3.5	9.01	27.09	6.00	17/01/13	Jan-15	7.00	10.00
5	Vellathooval	3.6	12.17	33.56	8.00	24/09/12	Feb-15	2.71	10.00
6	Perumthenaruvi	6	25.77	48.18	15.00	02/03/12	Mar-15	18.29	15.00
7	Chimmony	2.5	6.70	16.62	5.00	18/08/11	Mar-15	31.05	6.00
8	Sengulam	--	85.00	41.66	20.00	09/07/09	May-15	43.51	10.00

Sl. No.	Name of Project	Capacity	Energy	Project cost	Revised outlay for 2013-14	Date of commencement	Target date of completion	Physical progress as on 30.09.13	Proposed outlay for 2014-15
				As per work order					
		(MW)	(MU)	(Rs.Cr)	(Rs.Cr)			(%)	(Rs.Cr)
	Augmentation								
9	Chathankottunada-II	6	14.76	45.36	5.00	06/03/10	Oct-15	12.24	10.00
10	Thottiyar	40	99.00	144	25.00	16/01/09	Nov-15	27.32	30.00
11	Pallivasal Extension	60	153.90	268.01	25.00	09/03/07	Dec-15	74.00	50.00
12	Poringalkuthu SHP	24	45.02	138.1	2.00	10/10/2013	2016-17	0.00	4.00
13	Anakkayam	9.0	22.83	76.93	0.50	Not started	2016-17	0.00	5.00
	Total	**180.1**	**543.18**		**162.80**				**190.00**

The details of the new projects proposed are as follows.

Table 3.3

Details of new generation projects proposed

Sl. No.	Name of Project	Capacity	Energy	Expected date of Tendering	Expected date of commencement	Expected date of completion	Proposed outlay for 2014-15	Remarks
		(MW)	(MU)				(Rs. Cr)	
1	Bhoothathankettu	24.00	83.50	Oct-13	Mar-14	Dec-15	10.00	Work awarded
2	Upper Kallar	2.00	5.15	Dec-13	Mar-14	Feb-16	2.00	To be tendered
3	Olikkal	5.00	10.18	Oct-14	Jan-15	Dec-16	2.00	Land acquisition stage
4	Poovaramthodu	3.00	5.88	Oct-14	Jan-15	Dec-16	2.00	Land acquisition stage
5	Peechad	3.00	7.73	Oct-14	Jan-15	Dec-16	0.40	Land acquisition stage
6	Chembukadavu-III	6.00	14.92	Dec-14	Mar-15	Feb-17	2.00	Land acquisition stage
7	Peruvannamoozhi	6.00	24.70	Dec-14	Mar-15	Feb-17	0.20	Pre-construction stage
8	Chinnar	24.00	76.45	Dec-14	Mar-15	Feb-17	1.00	Land acquisition stage
9	Upper Sengulam	24.00	59.20	Dec-14	Mar-15	Feb-18	0.25	Pre-construction stage
10	Ladrum	3.50	10.47	Dec-14	Mar-15	Feb-17	0.10	Pre-construction stage
11	Western Kallar	5.00	14.29	Mar-15	Jun-15	May-17	0.10	Pre-construction stage
12	Pazhassi Sagar	15.00	42.14	Mar-15	Jun-15	May-18	0.10	Pre-construction stage
13	Mankulam	40.00	82.00	Jun-15	Sep-15	Aug-19	10.00	Land acquisition stage
14	Marmala	7.00	16.72	Mar-15	Jun-15	May-18	0.10	DPR approval stage
15	Valanthode	7.50	16.82	Jun-15	Sep-15	Aug-17	0.05	DPR approval stage
16	Maripuzha	6.00	14.84	Jun-15	Sep-15	Aug-17	0.05	DPR approval stage
17	Achankovil	30.00	75.81				0.05	Forest & Env. clearance
18	Pambar	40.00	84.79				0.05	Forest & Env. clearance
19	Athirappally	163.00	233.34				0.05	Env. Clearance stage
	Total	**414.00**	**878.93**				**30.50**	

3.3 Under transmission in order to cater to the increasing transmission requirements, the following substations and lines are proposed to be completed during the year 2014-15. The details are given below:

Substationsa

- 220 kV substations - 1 No.
- Upgradation of 66 kV substations to 110 kV - 6 Nos.
- 66 kV substations - 3 Nos.
- 33 kV Substations - 12 Nos.

Total - 22 Nos.

Lines

- 220 kV Lines - 49.5 km
- 110 kV Lines - 172.5 km
- 66 kV Lines - 3.1 km
- 33 kV Lines - 114.6 km

Total - 339.7 km

3.4 As per the details given in the petition, the details of the transmission works targeted for completion during the year 2014-15 is detailed below.

Table 3.4
Details of transmission works proposed during the year 2014-15

Sl. No.	Name of Substation / Line	Capatcity (MVA)	Line Length (km)	Remarks
I. 220 kV Substations & connected Lines				
1	Kattakkada	2x200	28.5	Spillover
II. 110 kV Substations & connected Lines				
1	Pambady Upgn.	2x12.5	0	Spillover
2	Kanjirappally Upgn.	2x12.5	0	Spillover
3	Ernakulam North Upgn.	2x12.5	3.8	
4	Angamaly Upgn.	2x12.5	0	
5	Pudukadu Upgn.	2x12.5	2.7	Spillover
6	Koothuparamba Upgn.	2x12.5	6	Spillover
III. 66 kV substations & connected Lines				
1	East kallada	2x10	0.3	Spillover
2	Thenmala	1x10	0	Spillover
3	Thevalakkara	1x10	0	
IV. 33 kV substations & connected Lines				
1	Vilakulam	2x5	6.5	
2	Manimala	2x5	18.5	Spillover
3	Koottikkal	2x5	8	Spillover
4	Kadapra	2x5	8.9	Spillover
5	Kallara	2x5	7.7	
6	Pothukallu	2x5	24	Spillover
7	Kalpakanchery	2x5	4	
8	Manjeri South	2x5	12	
9	Vydyuthi Bhavanam, PKD	2x5	5.5	Spillover
10	Perambra	2x5	8	Spillover
11	Kasargod Town	2x5	6	RAPDRP
12	Kanhangad Town	2x5	5.5	RAPDRP
V. Other Line Works				

Sl. No.	Name of Substation / Line	Capatcity (MVA)	Line Length (km)	Remarks
1	220 kV SC line for Pallivasal Extn. HEP	--	1	
2	220 kV Kattakada-Balaramapuram-Vizhinjam line	--	20	
3	110 kV DC line from Barapole HEP to Kanhangad	--	10	Spillover
4	110 kV Rampuram-Melattur 2nd circuit	--	21	
5	110 kV Malaparamba-Ramapuram MC line	--	6	Spillover
6	110 kV Vyttila-New Vyttila Link line	--	0.7	
7	110 kV Malappuram-Tirur 2nd circuit	--	24.8	
8	110 kV Vadakara-Thalassery Doubling	--	20.6	
9	110 kV Vadakara-Chevayur Doubling	--	47	
10	110 kV Vidyanagar-Kubanoor line	--	19.7	
11	Upgradation of 66 kV Parassala-Neyyattinkara line to 110 kV	--	10.2	
12	66 kV Kuyilimala-Vazhathope DC line	--	2.8	Spillover

3.5 In Distribution, the proposed works targeted for completion in 2014-15 are given below:

Table 3.5
Details of the distribution works

Sl. No.	Work	Quantity
1	Service Connections (Nos.)	400000
2	11 kV Line Extension (km)	3000
3	Transformer Installation (Nos.)	4000
4	LT Line Extension (km)	4560
5	1-phase to 3-phase Conversion (km)	4500
6	LT Reconductoring (km)	5200
7	HT Reconductoring (km)	500
8	Meter Replacement (Nos.)	1060000

3.6 The total capital outlay for the distribution works is detailed below

Table 3.6
Capital outlay for the distribution works proposed for the year 2014-15

Sl No.	Particulars	Amount (Rs. Cr)
1	System development works from internal accruals and funds (govt, local bodies, consumer contribution etc)	317.00
2	R-APDRP (Part-A) & SCADA works	122.00
3	R-APDRP (Part-B) works	235.00
4	RGGVY works	26.00
	Total outlay for Distribution	700.00

3.7 The distribution works proposed during the year 2014-15 include the normal system development works needed for effecting additional service connections, system improvement and strengthening works aimed at reduction of loss and improving the quality of supply. This includes the works undertaken by KSEBL using its own fund, the fund available from other sources such as MPLAD, MLASDF, local bodies etc as well as consumer contribution. An outlay of Rs 317.00 Cr is provided for the year 2014-15 under this category. The details of some of the schemes are given below:

R-APDRP (Part A)

3.8 Forty three schemes are sanctioned under Part-A of R-APDRP at a total project cost of Rs 288.32 crore Out of this, Rs 214.40 crore is sanctioned as loan by Ministry of Power and the balance amount of Rs 73.94 crore is to be met from the own fund of KSEBL. Part-A of R-APDRP includes IT applications for energy accounting & auditing, IT based consumer indexing, GIS mapping, SCADA/DMS system, metering of DTRs & feeders etc.

R-APDRP (Part B)

3.9 Part-B of the R-APDRP scheme involves works aimed at loss reduction so as to bring down the AT&C losses to a sustainable level of less than 15%. 42 out of 43 eligible schemes are sanctioned by Ministry of Power for a total project cost of Rs 872.17 Cr and the works are in progress. Works in Kozhikode, Kochi and Thiruvananthapuram scheme areas are being executed on turnkey basis.

SCADA Schemes

3.10 SCADA schemes of Thiruvananthapuram (Rs 28.99 Cr), Kochi (Rs 29.76 Cr) and Kozhikode (Rs 24.40 Cr) cities are sanctioned for a total project cost of Rs 83.15 crore Proposed outlay for R-APDRP works including Part-A, Part-B and SCADA for the year 2014-15 is Rs 357 crore

RGGVY

3.11 Implementation of RGGVY scheme aimed at electrification of rural households is in progress in the 6 northern districts viz. Kasargod, Kannur, Wayanad, Kozhikode, Malappuram and Palakkad for a total amount of Rs 114.57 crore and in the 7 southern districts viz. Thiruvananthapuram, Kollam, Pathanamthitta, Alappuzha, Kottayam, Ernakulam and Thrissur. The scheme includes works on providing village electrification infrastructure and effecting electrification of BPL households free of cost. Proposed outlay for implementation of RGGVY for the year 2014-15 is Rs 26.00 crore

IT enabled services

3.12 An outlay of Rs 5 Cr is provided for IT enabled services for the year 2014-15. A number of IT packages catering to the requirement of various IT enabled services are being developed and implemented in KSEBL. Some of the works proposed are:

- Implementation of Accounting software
- Broadband/leased line connectivity
- HRM servers and storage
- LT billing – replacement of old computers and accessories
- Installation of manageable switches for end user LAN connectivity
- Installation of SCADA and distribution management system in major cities/ towns
- Improvement in billing by using modern meter reading technologies (AMR, CMRI etc.), billing database correction/ strengthening.

3.13 In addition to the above, safety related works, nominal sum is proposed. An outlay of Rs.0.50 crore earmarked for 2014-15 for inculcating a safety culture in the organisation by undertaking safety audits, training of personnel, consumer awareness programs etc.

Objections of Stakeholders

3.14 HT-EHT Association: In the case of capital expenditure, the HT-EHT Association stated that KSEBL is not complying with the regulations of the Commission. A scrutiny of the petition reveals that details given in the petition are not sufficient to evaluate the cost and time overruns. For the transmission works no details are provided on the estimated benefits from each of the works. Only combined costs are given for distribution and transmission. The completion dates given in the successive petitions show that there is considerable delay in execution of the projects. This is the case with transmission substations and lines. Considering this, the HT-EHT Association stated that only Rs.988 crore needs to be allowed as capital expenditure.

Analysis and Decision of the Commission

3.15 KSEBL has in their ARR&ERC petition proposed capital expenditure for the year 2014-15 as Rs.1300 crore. The Commission has examined the details given by the licensee, KSEBL. In the case of generation, KSEBL has now given the given the project outlay, commencement, target date of completion etc., however, it is been observed that in the case of ongoing projects, the schedules of completion has been extended repeatedly. The delay in completion of projects is more than one to three years even in the case of small hydro projects. The details are given below:

Table 3.7
Postponement of completion dates and delay in commissioning of projects

Sl. No.	Name of Project	Capacity	Energy	Project cost	Date of commencement	Target date of completion givne in Tariff petition for 2012-13	Target date of completion givne in Tariff petition for 2014-15
				As per work order			
		(MW)	(MU)	(Rs.Cr)			
1	Vilangad	7.50	22.63	59.49	08-03-2010	Dec.12	Jun-14
2	Barapole	15.00	36.00	98.38	05-09-2010	March , 13	Oct-14
3	Kakkayam	3.00	10.39	26.07	19-03-2011	March, 13	Dec-14
5	Vellathooval	3.60	12.17	33.56	24-09-2012	Jun-14	Feb-15
6	Perumthenaruvi	6.00	25.77	48.18	02-03-2012	March, 14	Mar-15
7	Chimmony	2.50	6.70	16.62	18-08-2011	Feb-14	Mar-15
8	Sengulam Augmentation	--	85.00	41.66	09-07-2009	Dec., 13	May-15
9	Chathankottunada-II	6.00	14.76	45.36	06-03-2010	March, 13	Oct-15
10	Thottiyar	40.00	99.00	144	16-01-2009	May, 14	Nov-15
11	Pallivasal Extension	60.00	153.90	268.01	09-03-2007	Dec, 13	Dec-15
12	Poringalkuthu SHP	24.00	45.02	138.1	10-10-2013	Sep-14	2016-17
13	Anakkayam	9.00	22.83	76.93	Not started		2016-17
	Total	**180.10**	**543.18**				

3.16 Hence, the Commission is of the view that comprehensive review of the projects under generation is to be taken up to firm up the capital expenditure programme and completion. Since KSEBL has now stated that project specific loans are being availed regular monitoring is required for determining the reasonable project completion cost.

3.17 Under transmission, KSEBL has given as part of additional details, capital works relating to substations and lines. In some cases progress has been reported, where substations are complete, whereas there is substantial backlog in completion of lines. It is also noted that project cost and target dates for completion are revised frequently.

Table 3.8

Targets and Achievement in Completion of Substations and Lines

Particulars	2010-11			2011-12			2012-13		2013-14
	Original Target	Revised Target	Actual	Original Target	Revised target	Actual	Original Target	Revised Target	Proposed target
Substations					(Numbers)				
220 kV	2			2	2		2	1	1
110 kV	19	13	5	16	13	3	13	5	10
66 kV	6	4	1	3	3		7	3	3
33 kV	19	25	7	14	20	7	19	7	5
Sub total	46	42	13	35	38	10	41	16	19
Lines (Kms)									
220 kV	28.50	3.60		Not given	94.20	11.38	94.20	113.17	26.00
110 kV	138.50	100.00	65.20		68.00	0.89	170.00	97.17	129.74
66 kV	13.50	15.00	0.10		5.00		34.00	2.53	0.30
33 kV	138.00	212.00	70.80		302.00	75.65	167.40	68.60	72.95
Sub total	318.50	330.60	136.10		469.20	87.92	465.60	281.47	228.99

Particulars	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
11 kV lines (km)	1269	955	1062	1820	1807	3018	3398	3645	2572	1579
LT Line (km)	4429	6074	7441	8229	8128	7636	7837	6929	4089	3066
Distribution Transformers (nos)	1063	1882	1751	2124	2553	4109	5790	5800	4375	2643

3.18 The details given under distribution, are under the heads of normal development works, works for which actual cost is collected from beneficiaries, and works proposed under RGVVY & R-APDRP (Central schemes). Of the total Rs.700 crore proposed, Rs. 317 crore is proposed under normal development works and Rs.385 crore is under Central Schemes (R-APDRP, RGGVY etc.). The progress of capital expenditure under distribution is given as shown below:

Table 3.9
Details of works under 'Distribution' proposed for the year 2014-15

Sl. No.	Work	Target						Achievement as on 31.05.14
		Normal Works	Estimated Cost Works	RAPDRP Works	RGGVY Works	Other Funded Works	Total	
1	Service Connection (Nos.)	30091	387844	0	15099	2827	**435861**	61665
2	11 kV Line Extension (km)	1481	172	664	289	59	**2665**	187
3	Transformer Installation (Nos.)	2017	631	574	434	132	**3788**	430
4	LT Line Extension (km)	539	2738	75	459	511	**4322**	450
5	1-ph. to 3-ph. Conversion (km)	2307	431	590	63	79	**3470**	253
6	LT Reconductoring (ckt. km)	4026	23	945	173	43	**5210**	909
7	HT Reconductoring (ckt. km)	512	1	25	24	8	**570**	79
8	Meter Replacement (Nos.)	822185	8364	345428	0	4471	**1180448**	61578

3.19 Commission notes that the capital investments by KSEBL had been showing down ward trend over the past few years. The investments programmed as per the ARR filings are seen curtailed in the revised estimates in the subsequent filings. The investments in generation and transmission are falling down at an alarming rate. While the actual capital investments will be available only when truing up petitions are filed, the trends are clear in the revised estimates furnished. The original filings and revised estimates from 2011-12 to 2014-15 are given below:

Table 3.10
Capital expenditure proposed and revised over the years

	2011-12		2012-13		2013-14		2014-15
	Target	**Revised**	Target	**Revised**	Target	**Revised**	Target
Generation	308	**384**	427	**274**	373	**257**	332
Transmission	255	**253**	305	**232**	293	**192**	255
Distribution	444	**540**	710	**607**	851	**700**	700
Others	29	**12**	6	**5**	4	**9**	13
TOTAL	1036	**1189**	1448	**1118**	1521	**1158**	1300

3.20 While the annual outlay in generation and transmission has come down, the outlay for distribution only is going up which is largely accountable to consumer contribution. The targets of generation schemes over the years were also analyzed by the Commission. During the ARR filings for 2012-13 the licensee had declared that 12 small hydro projects of aggregate capacity 148 MW (468 MU) would be completed by the year 2014-15. Out of the above 12 projects only 2 numbers (Peechi and Ranni Perunad with 12.5 MW / 39 MU) have been completed and the remaining projects are now targeted for the ensuing years. These delayed projects include Pallivasal extension (60MW / 154 MU) , Thottiyar (40 MW / 99MU), Sengulam Augmentation (85 MU) etc.

3.21 The execution of works in transmission sector does also show such time-over-run. The substations targeted for 2012-13 but still incomplete include 220KV Kattakkada 110 KV up-gradations at Ernakulam North, Angamaly, Puthukad, Koothuparamba etc. Out of the 9 nos. 110KV- 66KV level substations programmed for 2014-15 , at least 6 nos. belong to spill over category.

3.22 The Commission notes with displeasure the reduction of actual investments in Generation and Transmission sectors over the years which would have long term negative impact on the power sector of the State. Failure of KSEBL in executing the small hydro projects on a professional manner is contributing to the power crisis in the state considerably. It is well known that the dependence on costly energy can be reduced to some extent if the small hydro potential in the State is tapped on a war footing.

3.23 As mentioned in previous orders, the details available under the capital expenditure programme especially transmission and distribution are not sufficient to correlate with the purposes such as loss reduction, system stability/reliability, load growth etc., though there may be multiple or overlapping benefits. The projects given in transmission sector have not been substantiated with respect to system strengthening or contingencies etc. with proper data from load flow studies. In the absence of realistic studies on the estimates of transmission and distribution losses, it is difficult to link the adequacy of capital expenditure programme for loss reduction. Hence, at this stage detailed analysis of the capital expenditure programme for 2014-15 and review of capital expenditure for the previous year are not attempted. However, the Commission will take up the matter separately for the approval of capital projects.

3.24 The Commission for the purpose of ARR&ERC for 2014-15, decided to consider the past achievements in the capital expenditure programme. Though KSEBL has proposed Rs.1300 crore as capital expenditure, which is lower than that of previous years, it can be seen that the achievement in the recent past regarding completion of projects has not been satisfactory due to many factors. Considering all these aspects, the Commission would adopt the reasonable estimate of capital expenditure for 2014-15 as Rs.1000 crore. It is to be pointed out that the amount specified is not a ceiling on capital expenditure and KSEBL may in its wisdom invest more in projects in a prudent manner in 2014-15 , and submit sufficient supporting details for approval.

CHAPTER – 4

TRANSMISSION AND DISTRIBUTION LOSS

Introduction

4.1 The Commission approved transmission and Distribution loss (T&D loss) level of 14.73% for the year 2013-14, against the projection of 14.91% by the licensee for that year. The licensee projected the loss target of 14.91% for 2013-14 based on a loss reduction target of 0.32% from the estimated loss level of 15.23% in 2012-13. In the present petition, the actual loss for 2012-13 is reported as 15.30%.

4.2 In the petition, the licensee has projected a loss target of 14.75% for the year 2014-15, which is almost the same as the target of the previous year proposed by the licensee (14.73% for 2013-14). The revised estimate of loss level in 2013-14 is 15.00%. Based on this, the loss target proposed by the licensee is 0.25% for 2014-15. According to the licensee, on account of sustained efforts, the T&D loss was reduced by 15.46% during the period from 2001-02, as shown below:

Table 4.1
T&D Loss Reduction Achieved by the KSEBL

Year	T&D Loss within KSEB system (%)	Extent of reduction (%)	
		Yearly	Cumulative
2001-02	30.76	-	-
2002-03	29.08	1.68	1.68
2003-04	27.44	1.64	3.32
2004-05	24.95	2.49	5.81
2005-06	22.96	1.99	7.80
2006-07	21.47	1.49	9.29
2007-08	20.02	1.45	10.74
2008-09	18.83	1.19	11.93
2009-10	17.71	1.12	13.05
2010-11	16.09	1.62	14.67
2011-12	15.65	0.44	15.11
2012-13	15.30	0.35	15.46

4.3 In the petition, the licensee has claimed that the total T&D losses include the ‘transmission losses of the STU’ as well as ‘technical and commercial losses of the ‘distribution licensee’. If the transmission losses are separated, the losses in the distribution system are less than 12%.

4.4 KSEBL claimed that it is one of the few distribution utilities in the country having achieved 100% metering that could reduce the total T&D loss level to 15.30%. According to KSEBL, from 2001-02 onwards the total savings in cost of generation and power purchase by way of reduction in T&D loss are to the tune of Rs.1553 crore.

Studies on estimation of losses

4.5 In compliance with the direction of the Commission for detailed study of T&D losses and its components, KSEBL has assessed the month-wise transmission losses at individual voltage levels (400kV, 220 kV, 110kV, 66 kV and 33 kV) for the monthly peak demand from April-2012 to March-2013. According to KSEBL, the methodology adopted for the study is similar to the network analysis methodology for loss assessment of the transmission network suggested by CEA & Forum of Regulators. The study considered the seasonal load flow variations during the year 2012-13 by taking four blocks viz., April-June 2012, July-September-2012, October-December 2012 and January- March-2013. It also considered peaks during a day ie., morning peak, day off-peak and night off-peak. The summary of the transmission losses for the monthly peak demand for each voltage level as per the study is given below.

Table 4.2:

Voltage level wise transmission losses for the monthly peak demand

Month	Peak Demand	Transmission losses upto different voltage level during peak hours (in percentage)				
	(MW)	400kV	220kV	110kV	66kV	33kV
Apr-12	3059	0.54	2.54	4.09	6.28	6.31
May-12	3181	0.53	2.58	3.93	6.10	6.23
Jun-12	3182	0.46	2.89	4.14	5.97	6.29
Jul-12	3268	0.58	2.00	3.31	5.55	5.43
Aug-12	3106	0.47	2.13	3.46	5.64	5.64
Sep-12	3158	0.46	2.29	3.57	5.71	5.76
Oct-12	3037	0.48	1.72	3.15	5.15	5.11
Nov-12	2991	0.51	1.89	3.21	5.21	5.15
Dec-12	3004	0.55	2.19	3.40	5.22	5.40
Jan-13	2887	0.53	1.81	3.12	5.03	5.11
Feb-13	2873	0.51	1.96	3.24	4.76	5.01
Mar-13	3237	0.54	2.31	3.57	5.61	5.84
Average		**0.51**	**2.19**	**3.51**	**5.52**	**5.61**

4.6 Similarly the summary of the transmission losses for average load during morning peak, day time and night off-peak hours is detailed below.

Table 4.3: Voltage wise transmission losses during Morning peak

Seasons	Transmission losses during morning peak (%)				
	400kV	220kV	110kV	66kV	33kV
Season-1 (Apr to June-2012)	0.57	2.52	3.52	4.65	4.97
Season-2 (Jul to Sep-2012)	0.30	1.49	2.56	3.78	3.92
Season-3 (Oct to Dec-2012)	0.39	1.76	2.92	4.09	4.24
Season-4 (Jan to Mar-2013)	0.56	2.13	3.18	4.59	4.96
Average	0.46	1.98	3.04	4.28	4.52

Table 4.4: Voltage wise transmission losses during 'day time average demand'

Seasons	Transmission losses during average morning demand (%)				
	400kV	220kV	110kV	66kV	33kV
Season-1 (Apr to June-2012)	0.48	2.46	3.51	4.74	4.97
Season-2 (Jul to Sep-2012)	0.35	1.62	2.73	3.78	3.99
Season-3 (Oct to Dec-2012)	0.53	1.94	3.11	4.25	4.48
Season-4 (Jan to Mar-2013)	0.56	1.93	2.95	4.25	4.58
Average	0.48	1.99	3.07	4.26	4.51

Table 4.5: Voltage level transmission losses during 'night off-peak demand'

Seasons	Transmission losses during night off-peak (%)				
	400kV	220kV	110kV	66kV	33kV
Season-1 (Apr to June-2012)	0.49	2.40	3.54	4.83	5.21
Season-2 (Jul to Sep-2012)	0.40	1.90	3.02	4.23	4.41
Season-3 (Oct to Dec-2012)	0.52	1.53	2.87	3.97	4.28
Season-4 (Jan to Mar-2013)	0.56	1.92	3.20	4.70	4.94
Average	0.49	1.94	3.16	4.43	4.71

4.8 Based on the above, the KSEBL has stated that the average transmission losses for providing supply at 110 kV is about 3.04% to 3.51% and the same for providing supply at 66kV is about 4.28% to 5.52%.

4.9 As part of the ARR&ERC exercise for 2013-14 in the previous year, KSEBL has reported based on the simulations taken for three time zones in 2011-12, the estimated peak losses upto 33kV at 5.74% to 6.03%. The average transmission loss upto 110kV was more than 3.8% and that of 66kV was more than 5.7%. Regarding the estimate of HT level losses, study in sample urban and rural feeders in each circle shows wide variation and the median value of HT losses ranges from 6.9% to 7.6%. The LT level loss was estimated by identifying three LT feeders under each circle with low, medium and heavy loading. The LT level loss has been estimated at about 11.5%.

4.10 The licensee further submitted that the detailed assessment on distribution losses as well as its segregation into technical and commercial losses will be submitted once the R-APDRP works are completed. Though the Commission has directed the KSEBL to segregate the technical and commercial losses, the details of the same have not been provided.

Efforts taken up for Reduction of T&D Loss, for the Year 2013-14 and 2014-15

4.11 As per the data provided by KSEBL from 2003-04, the progress of completion of transmission and distribution capital works is as shown below:

Table 4.6

Details of Sub-stations and Lines Commissioned during the Period from 2003-04 to 2011-12

Particulars	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Substations	Numbers									
220 kV	1	1	1	-	1		2			1
110 kV	6	8	4	2	4	2	9	5	3	1
66 kV	3	2	4	3	1			1		1
33 kV	7	15	10	10	13	16	18	7	7	8
Sub total	17	26	19	15	19	18	29	13	10	11
Lines	Kilometers									
220 kV	4.3	15	56		1.01		18.3		11.38	6.7
110 kV	154.6	30	55	30	56.38	17.5	48.3	65.2	0.89	9.21
66 kV	8.4	5	13	15	11.13			0.1		0.06
33 kV	95.4	157	131	95	105.44	169.3	199.2	70.8	75.65	67.98
Sub total	262.7	207	255	140	173.96	186.8	265.8	136.1	87.92	83.95

4.12 In addition to the new substations commissioned during the year, the capacity of the existing substations have been enhanced in 2012-13 as shown below:

Table 4.7

Capacity Enhancement Proposed for Existing Substations

	Capacity enhancement reported in 2010-11 (MVA)	Capacity enhancement reported in 2011-12 (MVA)	Capacity enhancement reported in 2012-13 (MVA)
220kV Substation	202.5	25	25
110kV substation	93.50	99	99
66kV substation	32.7	78.7	78.7
33kV substation	5	5	5

4.13 It can be seen that the enhancement of capacity reported for 2011-12 and 2012-13 are same, which may be due to oversight. **The licensee is directed to verify the figures and to ensure that such error, if any, is avoided.**

4.14 The target for new substations and lines for the year 2014-15 proposed by the licensee is given below:

Table 4.8

Details of Substations and Lines Proposed for the Year 2013-14 and 2014-15

Particulars	Revised target for 2012-13	Target for the year 2013-14	Revised target for 2013-14	Target for the year 2014-15
Substations	(Numbers)			
220 kV	1	1	1	1
110 kV	5	10	6	6
66 kV	3	3	3	3
33 kV	7	5	7	12
Sub total	16	19	**17**	**22**
Lines	(Kilometers)			
220 kV	113.17	26	19.60	49.50
110 kV	97.17	129.74	40.70	162.30
66 kV	2.53	0.30	2.50	13.30
33 kV	68.60	72.95	83.30	114.60
Sub total	**281.47**	**228.99**	**146.10**	**339.70**

4.15 Under distribution, the licensee has proposed following system improvement and loss reduction works:

Table 4.9

Details of Distribution Works Proposed for the Year 2013-14 and 2014-15

Work	2013-14		Target for 2014-15
	Target	Revised Target	
11 kV Line extension (km)	3250	3230	3000
Transformer installation (Nos.)	3750	4100	4000
LT Line extension (km)	5000	4500	4560
1-ph to 3-ph Conversion (km)	4500	4863	4500
Meter replacement (lakhs)	10.3	11.0	10.6

4.16 The target for replacement of faulty meters for the year 2013-14 was 11 lakhs meters and that of 2014-15 is 10.6 lakh meters. As per the petition, the commercial loss reduction is addressed with the following measures:

(i) Replacement of faulty and sluggish electromechanical meters with good electronic meters.
(ii) Intensive power theft detection by the anti power-theft squad.
(iii) Computerisation of billing and revenue collection.
(iv) Enlarging energy audit.

4.17 According to the licensee, the prime target is to maintain the loss reduction already achieved and with the ongoing and continuous efforts on loss reduction, the target is to reduce the T&D loss during the year 2013-14 by 0.30% and further by 0.25% in 2014-15. Thus, the proposed target of T&D loss as on 31-03-2014 would be 15.00% and the same as on 31-03-2015 is 14.75% (including transmission losses). The licensee has stated that annual collection efficiency of HT&EHT consumers for 2011-12 is 97.16% and that of LT consumers is 98.11%. Now the overall collection efficiency is 99%. At 99% collection efficiency, the AT&C loss for the year 2013-14 is 15.85% (as against 16.61% proposed in previous year petition) and the target for the year 2014-15 at 15.60%.

Objections of Stakeholders:

4.18 The HT-EHT Association pointed out that KSEBL has not complied with the directions of the Commission on estimation of losses and not even attempted to seek condonation of the delay when the directions are not complied with in time. KSEBL is also not taking any measures for loss reduction. They have stated that the ratio of shunt capacitors and peak load in other states has been much better compared to KSEBL and that KSEBL is not bothered to install adequate capacitors in the system. Further, the KSEBL also reported that 35% of the shunt capacitors are not in working condition. KSEBL has not made available the details of voltage level loss study so far. The HT-EHT Association stated that as per the petition, the KSEBL has not achieved the loss reduction targets approved by the Commission for 2013-14. The poor performance in this regard has to be seen in the light of hefty capital expenditure made every year. The Association suggested to fix the loss reduction target at 1% for the year 2014-15 (ie., T&D loss of 13.76%), as per the FOR methodology.

Analysis of the Commission

4.19 The licensee has proposed a loss level of 14.75% for the year 2014-15, which is 0.25% lower than the estimate of loss for 2013-14 (15.0%). The Commission in its Order on ARR&ERC for the year 2012-13, had approved a loss level of 14.81 % for the year 2012-13. The loss reduction target for the year 2012-13 was 0.5% as against 0.25% proposed by the licensee. In 2013-14, the Commission has given a target of 0.5% reduction and a loss target of 14.73%. Though the loss levels reported by the licensee is comparatively low, it can be seen that the loss targets proposed by the license is not fully based on sound scientific premise and lacks the support of scientific studies, data, and materials. Over the years, the Commission has been issuing general and specific directions to the licensee to conduct field level scientific studies so as to estimate realistically the T&D loss levels and to have optimum plan for of capital expenditure in areas where system losses are high. In this regard, the Commission in 2011-12 had issued specific direction as given below:

“The Board shall study and report the voltage level loss as well as technical and commercial losses in transmission and distribution. The frequency of studies shall be increased especially in transmission by periodically taking into consideration seasonal load flow variations and the results may be reported to the Commission in a consolidated form. In the case of loss studies in distribution, the Commission had already issued guidelines for taking up more representative sample studies and making a consolidated report. The consolidated report of loss

studies in transmission and distribution shall be submitted to the Commission before 30.11.2011."

4.20 The Commission had also given direction for replacement of faulty meters with good quality meters. However, these directions were not fully complied with. In 2012-13, the Commission had repeated the direction on the T&D loss study as shown below:

> *"The Board shall study and report the voltage level loss as well as technical-commercial separation of T&D loss within four months from the date of the Order. The frequency of studies shall be increased especially in transmission by periodically taking into consideration seasonal load flow variations and the results may be reported to the Commission in a consolidated form. In the case of loss studies in distribution, the Commission had already issued guidelines for taking up more representative sample studies and making a consolidated report. The consolidated report of loss studies in transmission and distribution shall be submitted to the Commission by 1-10-2012."*

4.21 Though the licensee has submitted its report on the study on T&D loss, it was limited to the estimation of power losses transmission system. It was not presented in the consolidated form as directed. Hence, the usefulness of results of such studies to the Commission is little. The attempts made to estimate the distribution loss were also not satisfactory. In 2013-14 also the Commission directed the licensee to conduct a comprehensive study on losses in the system and report the voltage level losses as well as separation of technical and commercial losses within 6 months from the date of the order. Further, specific direction was also given for a time bound target for replacing faulty meters and old electro mechanical meters.

4.22 However it can be seen that the directions given were not complied with in its full spirit. On the other hand, steps to overcome the compliance were reported and even after about 9 years, the licensee could not even organize a systematic study of losses in transmission. According to the licensee, the completion of R-APDRP project is a pre-requisite for initiating a distribution loss study. The results now presented for transmission is not satisfactory as it is not useful for the Commission for fixing energy loss levels for any kind of tariff determination. The licensee could not properly present the results for meaningful conclusion and application.

4.23 In this circumstance, the Commission has to reiterate the conclusions given in the previous year that

"In the absence of reliable supporting materials on the T&D loss level, the Commission is not in a position to arrive at more reasonable estimates on the loss reduction or loss level. The Commission notes that, the capital expenditure planned for system improvement or loss reduction is still not linked to the target loss levels or other distribution performance parameters. As such sufficient evidence is not available to conclusively establish the reasonableness of projections of the Board on the loss levels. This is especially important with reduction in losses below 15% level and constant increase in the capital expenditure budget."

4.24 As per the details given by the licensee, every year, high targets for completion of projects were given, whereas the reported progress is much below the target. Further, the target fixed for the subsequent periods were often revised downwards as the progress was not up to the desired level. This has been shown elsewhere in the order. This may have a bearing on the reduction of loss envisaged by the licensee.

4.25 As can be seen from the table below, the performance in loss reduction over the years is always lower than the target proposed by licensee and that approved by the Commission.

Table 4.10
Loss Reduction Proposed, Approved and Achievement

Year	Proposed in the ARR (%)	Approved by the Commission (%)	Actual achieved by KSEB (%)
2005-06	2.72	2.72	1.99
2006-07	1.76	2.50	1.50
2007-08	1.83	2.00	1.45
2008-09	1.63	1.63	1.19
2009-10	1.27	1.00	1.12
2010-11	0.92	0.92	1.62
2011-12	0.69	0.69	0.44
2012-13	0.25	0.50	0.35
2013-14	0.32	0.50	0.30*
*proposed to be achieved as per ARR petition			

4.26 In the present petition, KSEBL has proposed a lower target for reduction of loss of 0.25% for 2014-15 Over the years, there had always been divergences in the proposed, approved and actual loss and loss reduction targets as shown below:

Table 4.11

Loss Targets and Loss Reduction Targets Approved and Actuals

	Loss Targets				Loss Reduction Targets			
Year	Proposed in the ARR	Approved level	Actual achieved by KSEB	Approved in True up	Proposed in the ARR	Loss Reduction Approved	Actual achieved by KSEB	Loss reduction approved in Truing up
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2003-04	26.60	26.60	27.45	26.60				
2004-05	24.77	24.50	24.95	24.50	2.33	3.00	2.50	2.95
2005-06	22.59	21.89	22.96	22.23	2.72	2.72	1.99	2.72
2006-07	21.58	20.45	21.47	20.46	1.76	2.50	1.50	2.50
2007-08	19.72	19.55	20.02	19.55	1.83	2.00	1.45	1.92
2008-09	18.49	17.92	18.83	18.39	1.63	1.63	1.32	1.63
2009-10	17.43	16.92	17.71	17.71	1.27	1.00	1.12	1.12
2010-11	16.78	16.00	16.09	16.09	0.92	0.92	1.62	1.62
2011-12	15.83	15.31	15.65		0.69	0.69	0.44	
2012-13	15.32	14.81	15.30		0.25	0.50	0.35	
2013-14	14.91	14.73	15.00		0.32	0.50	0.30	
2014-15	14.75				0.25			

4.27 Considering the past achievements and lack of credible supporting data from systematic studies, the Commission is of the view that the loss reduction target may be fixed as in the case of previous years. Accordingly, 0.50% loss reduction is fixed in the same manner as the loss reduction target for the year 2014-15. Generally the Commission fixes the loss target based on the approved loss levels for the current year. However, considering the disparity in approved and actual levels, the loss target for 2014-15 is fixed based on the loss level of 15.00% estimated by the licensee for 2013-14. Thus, the approved T&D loss for 2014-15 shall be 14.50% (15.00%-0.5%).

Table 4.12

Approved T&D Loss for 2014-15

	Proposed in the ARR	Approved by the Commission
Energy sales (MU)	18494	18494
Internal loss (%)	14.75%	14.50%
Net Energy input to KSEBL System (MU)	**21696**	**21630**

AT&C Loss

4.28 The licensee has reported the collection efficiency of 97.2% for 2010-11 and 97.83% for 2011-12. The collection efficiency has now improved and it is reported as 99% for the current year. Accordingly, the AT&C loss levels proposed by the licensee is also reduced. For 2013-14 it was proposed as 15.85% and the target for the year 2014-15 is proposed as 15.60%. The Commission had been fixing the collection efficiency as 99% for previous years and 2014-15 also target collection efficiency is considered as 99%. Accordingly the AT&C loss target for 2014-15 shall be 15.36%.

Table 4.13

Approved AT&C Loss for 2014-15

	2010-11	2011-12	2012-13	2013-14	2014-15	
	Actual	Actual	Approved	Approved	**Proposed by the licensee**	**Approved by the Commission**
T&D loss	16.09%	15.65%	14.81%	14.73%	14.75%	14.50%
Collection efficiency	97.20%	97.83%	99.00%	99.00%	99.00%	99.00%
AT&C loss	18.44%	17.48%	15.66%	15.58%	15.60%	15.36%

CHAPTER – 5

ANALYSIS OF ANNUAL REVENUE REQUIREMENTS

Introduction

5.1 The aggregate revenue requirements projected by the licensee, M/s KSEBL for the year 2014-15 is Rs.12057.62 crore including the return on equity. The details of expenses under different heads proposed by the licensee and the approach of the Commission are explained in the ensuing paragraphs.

Generation and Power purchase

5.2 Total energy requirement for 2014-15 estimated by the licensee is 21697 MU. The peak demand estimated for the year 2014-15 is 3706MW against 3515 MW projected for 2013-14 and 3538MW in 2012-13. The monthly energy consumption is expected to increase by about 5% over 2013-14 whereas the peak demand is expected to increase by about 6% over the same period. The average daily consumption is expected to be 59.44MU for 2014-15, whereas it was 51.2MU in 2011-12, 54.5MU in 2012-13 and 56.6MU in 2013-14.

Internal Generation

5.3 Based on the 20 year average inflow from 1993-94 to 2012-13, energy availability from hydro sources is estimated at 6605MU for 2014-15. With the available storage and average monsoon for the remaining months of the water year 2013-14, the average daily hydro generation for the remaining months of the water year ie., April and May 2014 is estimated at 22.24MU and 19.19MU respectively. The total generation estimated for April and May was 1262MU. The hydro generation potential for 2014-15 based on the 20 year inflow is estimated at 18.14MU per day from June 2014. Accordingly, the targeted hydro generation excluding SHPs is estimated at 6779MU for the year 2014-15. The generation from small hydro sources is estimated at 181MU. Hence, the total expected hydro generation for the year 2014-15 would be 6959MU. Considering the auxiliary consumption of 0.5% of gross generation, net availability of energy from hydel sources has been projected at 6924MU for 2014-15 and per day availability of hydro energy is estimated to be 18.97MU for the year compared to 17.63MU estimated for the year 2013-14.

Purchase of Power from Central Generating Stations (CGS)

5.4 As stated in the petition, the present allocation from central generating stations (CGS) is about 1227MW with effect from 1-12-2012. According to KSEBL, new central stations expected to be commissioned in 2013-14 are as shown below:

Table 5.1

New CGS Expected to be Commissioned during 2014-15 as per KSEBL

Name of the station	Total capacity	Allocation to Kerala	Allocated capacity	Expected date of commercial operation
	(MW)	(%)	(MW)	
Kudankulam- 2nd unit	1000	13.3	133.00	Second unit by Dec-2014 (1st unit expected to declare COD by March -2014)
NTPC – Vallur – Unit 3	500	3.47%	17.35	Oct-2014
NLC- Exp- Stage-II	2 x 250	14	70.00	Unit 1: April-2014 Unit 2: Dec 2014
Tuticurin JV	500	7.25	36.00	By Dec-2014
Total	2500		256.35	

5.5 The licensee has also stated that the temporary allocation of 90MW from Indira Gandhi Super Thermal Station, Jhajjar has been expected to continue till May 2015. As per the regional energy accounts of Southern Regional Power Committee, the average transmission loss in PGCIL lines for evacuation of power from central generating stations is 3.20%. The estimate of total energy availability from central generating stations estimated by the licensee, KSEBL is as shown below:

Table 5.2

Energy Availability from CGS Estimated by KSEBL for the year 2014-15

No.		Installed Capacity MW)	Capacity Allocation	Allocated Capacity to KSEBL (MW)	Aux Consumption (%)	Target PLF (%)	Energy availability for the year 2014-15 (MU)	PGCIL losses (MU)	Net Energy availability at KSEBL periphery (MU)
1	TALCHER - Stage	2000	21.60%	432.00	6.50%	88.00	3113.74	99.64	3014.10
2	NLC- Exp- Stage-1	420	16.38%	68.80	9.50%	80.00	436.32	13.96	422.36
3	NLC-II- Stage-1	630	10.43%	65.71	10.00%	75.00	388.54	12.43	376.10
4	NLC-II- Stage-2	840	11.14%	93.58	10.00%	75.00	553.31	17.71	535.61
5	RSPTS Stage I & II	2600	12.45%	323.70	6.50%	89.00	2359.28	75.50	2283.78
6	MAPS	440	5.41%	23.80	10.00%	68.50	128.55	4.11	124.44
7	KAIGA Stg I	440	9.33%	41.05	10.00%	75.00	242.74	7.77	234.97
8	KAIGA Stg II	440	8.65%	38.06	10.00%	75.00	225.05	7.20	217.85
9	Simhadri Exp	1000	8.76%	87.60	6.50%	85.00	609.87	19.52	590.36

No.		Installed Capacity MW)	Capacity Allocation	Allocated Capacity to KSEBL (MW)	Aux Consumption (%)	Target PLF (%)	Energy availability for the year 2014-15 (MU)	PGCIL losses (MU)	Net Energy availability at KSEBL periphery (MU)
10	Kudamkulam	1000	13.30%	133.00	10.00%	68.50	718.27	22.98	695.29
13	NLC - II Exp	500	14.00%	70.00	10.00%	80.00	293.93	9.41	284.53
14	Vallur JV	1500	3.47%	52.05	6.50%	85.00	301.81	9.66	292.15
15	Tuticurin JV	500	7.25%	36.25	7.50%	85.00	82.77	2.65	80.12
16	Jhajjar	1500	6.00%	90.00	7.50%	85.00	619.88	19.84	600.04
	Total			**1555.6**			**10074.07**	**322.37**	**9751.70**

Cost of Energy from Central Generating Stations:

5.6 Based on the revised tariff applicable for the period 2009-2014, the fixed cost commitment of central generating stations have been estimated by the licensee considering the provisional tariff applicable to 2013-14. The same tariff has been projected for 2014-15. Accordingly, the fixed cost commitment expected for central generating stations is as shown below:

Table 5.3

Fixed Cost Commitment of CGS for the year 2014-15

No.	Name of the Generating Station	Installed capacity (MW)	Allocation	Allocated Capacity to KSEBL (MW)	Total annual FC approved by CERC	Fixed cost to KSEBL
					(Rs. Cr)	(Rs. Cr)
1	TALCHER - Stage II	2000	21.60%	432.00	1121	242.14
2	NLC- Exp- Stage-1	420	16.38%	68.80	354	57.99
3	NLC-II- Stage-1	630	10.43%	65.71	231	24.09
4	NLC-II- Stage-2	840	11.14%	93.58	315	35.09
5	Ramagundam-II& III	2600	12.45%	323.70	1207	150.27
6	MAPS	440	5.41%	23.80		26.19
7	KAIGA Stg I	440	9.33%	41.05		72.95
8	KAIGA Stg II	440	8.65%	38.06		67.64
9	Simhadri Exp	1000	8.76%	87.60	1188	104.07
10	Kudamkulam	1000	13.30%	133.00		251.40
11	NLC - II Exp	500	14.00%	70.00		35.27
12	Vallur JV with	1500	3.47%	52.05		45.27
13	Tuticurin JV	500	7.25%	36.25		12.42
14	Jhajjar	1500	6.00%	90.00	1625	97.50
	Total			**1555.60**		**1222.28**

5.7 The average variable cost of power from CGS for the period from April -2013 to September-2013 has been taken for estimating the variable cost for the year 2014-15 by KSEBL. The average monthly variable cost of CGS for the period from April-2013 to September-2013 are given below.

Table 5.4

Variable Cost of CGS for the period from April to September 2013

Sl No	Source	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Avg
1	NTPC-RSTPS	1.98	1.83	2.03	2.08	2.02	2.88	2.14
2	Eastern Region	1.96						1.96
3	IGSTPS(Jhajjar)	3.37	3.58	3.58	3.59	3.60	3.68	3.57
4	Talcher Stage-II	1.18	1.53	1.67	1.73	1.62	1.48	1.54
5	Simhadri TPS Stage II	2.21	2.04	2.14	2.02	1.98	2.12	2.09
6	NLC-Stage-1	2.07	2.14	2.16	2.15	2.15	2.16	2.14
7	NLC-Stage-II	2.07	2.14	2.16	2.15	2.15	2.16	2.14
8	NLC Expansion	1.89	1.98	2.02	2.01	2.00	2.02	1.99
9	Vallur STPS	1.85	2.15	2.23	2.28	2.19	2.08	2.14

5.8 The tariffs of the nuclear power plants MAPS and KAIGA are based on the rates approved by Department of Atomic Energy (DAE). Single part tariff is in force for nuclear power stations. The average tariff for the energy purchased from MAPS is Rs.2.04 per unit and that from KAIGA is Rs. 3.00 per unit. The cost per unit for Koodamkulam project was taken as Rs.3.50. The variable cost all new projects has been assumed as Rs.2.15 per unit. Fixed cost of new projects Tuticurin JV is taken as Rs.1.50 per unit and that of NLC II expansion is taken as Rs.1.20 per unit. The estimated cost of power from CGS for 2014-15 given by the licensee is as shown below:

Table 5.5

Estimated Cost Projected by the licensee for Purchase of power from CGS for 2014-15

No.	Power Plant	Energy schedule at generator bus	External loss	Net Energy input into KSEBL system	Fixed Cost	Variable cost	Total cost	Avg.rate (excl. Other charges)
		(MU)	(MU)	(MU)	(Rs. Cr)	(Rs.Cr)	(Rs.Cr)	(Rs/unit)
1	TALCHER - Stage II	3113.74	99.64	3014.10	242.14	479.52	721.65	2.39
2	NLC- Exp- Stage-1	436.32	13.96	422.36	57.99	93.37	151.36	3.58
3	NLC-II- Stage-1	388.54	12.43	376.10	24.09	83.15	107.24	2.85
4	NLC-II- Stage-2	553.31	17.71	535.61	35.09	110.11	145.20	2.71
5	RSPTS Stage I & II	2359.28	75.50	2283.78	150.27	504.88	655.16	2.87
6	MAPS	128.55	4.11	124.44	26.19	0.00	26.19	2.10
7	KAIGA Stg I	242.74	7.77	234.97	72.95	0.00	72.95	3.10
8	KAIGA Stg II	225.05	7.20	217.85	67.64	0.00	67.64	3.10
9	Simhadri Exp	609.87	19.52	590.36	104.07	127.46	231.53	3.92
10	Kudamkulam	718.27	22.98	695.29	251.40	0.00	251.40	3.62
11	NLC - II Exp	293.93	9.41	284.53	35.27	62.90	98.17	3.45

No.	Power Plant	Energy schedule at generator bus	External loss	Net Energy input into KSEBL system	Fixed Cost	Variable cost	Total cost	Avg.rate (excl. Other charges)
		(MU)	(MU)	(MU)	(Rs. Cr)	(Rs.Cr)	(Rs.Cr)	(Rs/unit)
12	Vallur JV with	301.81	9.66	292.15	45.27	64.89	110.16	3.77
13	Tuticurin JV	82.77	2.65	80.12	12.42	17.80	30.21	3.77
14	Jhajjar	619.88	19.84	600.04	97.50	221.17	318.67	5.31
	Total	**10074.07**	**322.37**	**9751.70**	**1222.28**	**1765.25**	**2987.53**	**3.06**

Transmission Charges

5.9 The licensee, KSEBL stated in the petition that the transmission charges payable to the CTU is estimated at Rs.0.31 per unit and that of Kayamkulam at the actual paid for the first half of the year 2013-14. The total transmission charges payable to PGCIL is estimated at Rs.347.54 crore for 2014-15.

Table 5.6

Transmission Charges Estimated by KSEBL

Sl No	Items	2013-14		Estimate for the year 2014-15
		As per the order on ARR	Revised estimate	
		(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
1	Transmission charges for Southern region	308.96	277.26	339.28
2	Transmission charges for Kayamkulam	8.18	8.26	8.26
3	Total transmission charges	**317.14**	**285.52**	**347.54**

Other Charges Payable to CGS

5.10 The other charges such as incentive, income tax, water cess, foreign exchange rate variation etc., payable by the beneficiary State utilities estimated based on the actuals of previous years. According to KSEBL the total other charges for the year 2014-15 would be Rs. 111.49 crore as shown below:

Table 5.7

Other Charges Payable to CGS Estimated by the KSEBL for 2014-15

Source	2009-10 (actual)	2010-11 (actual)	2011-12 (actual)	2012-13 (Est)	2013-14 (est)	2014-15 (est)
	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
Generators						
Talcher – II	118.37	12.36	10.79	36.45	44.49	44.49
NLC-II - Stage-1	0.84	8.25	8.55	2.10	4.94	5.96

Source	2009-10 (actual)	2010-11 (actual)	2011-12 (actual)	2012-13 (Est)	2013-14 (est)	2014-15 (est)
	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
NTPC- RSTPS	25.06	7.73	18.38	32.07	20.81	19.75
NLC-II - Stage-2		12.03	14.82	2.00	9.62	9.62
Simhadri				1.85	1.85	1.85
MAPS	0.30	0.07	0.95	0.28	0.40	0.43
NLC (Exp)	0.06	54.90	29.19	1.87	1.80	1.80
Kayamkulam		32.90				
KPCL						
Kaiga	0.89	0.33	2.80	-1.62	0.60	0.60
PGCIL						
Eastern Region						
Southern Region	2.25	38.25	20.25	27.41	22.04	26.99
Kayamkulam						
Total	**147.77**	**166.82**	**105.73**	**102.41**	**106.54**	**111.49**

5.11 Based on the above estimates, the total cost of power purchase from central generating stations estimated by KSEBL for the year 2014-15 is given below:

Table 5.8
Total Cost of Purchase of power from CGS Estimated by KSEBL

Source	Energy Produced /Purchased	External Loss	Net Energy Input	Fixed Cost	Incentive, Tax, etc.	Total Variable cost	Total Cost
	MU	MU	MU	Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr
(a) Fixed cost, Variable charges, incentives etc							
TALCHER - Stage II	3113.74	99.64	3014.10	242.14	44.49	479.52	766.14
NLC- Exp- Stage-1	436.32	13.96	422.36	57.99	1.80	93.37	153.16
NLC-II- Stage-1	388.54	12.43	376.10	24.09	5.96	83.15	113.20
NLC-II- Stage-2	553.31	17.71	535.61	35.09	9.62	110.11	154.82
RSPTS Stage I & II	2359.28	75.50	2283.78	150.27	19.75	504.88	674.91
MAPS	128.55	4.11	124.44	26.19	0.43	0.00	26.62
KAIGA Stg I	242.74	7.77	234.97	72.95	0.60	0.00	73.55
KAIGA Stg II	225.05	7.20	217.85	67.64	0.00	0.00	67.64
Simhadri Exp	609.87	19.52	590.36	104.07	1.85	127.46	233.38
Kudamkulam	718.27	22.98	695.29	251.40		0.00	251.40
NLC - II Exp	293.93	9.41	284.53	35.27	0.00	62.90	98.17
Vallur JV with	301.81	9.66	292.15	45.27	0.00	64.89	110.16
Tuticurin JV	82.77	2.65	80.12	12.42		17.80	30.21
Jhajjar	619.88	19.84	600.04	97.50	0.00	221.17	318.67
Sub total (CGS)	**10074.07**	**322.37**	**9751.70**	**1222.28**	**84.50**	**1765.25**	**3072.03**
Transmission charges							
CGS				312.30	26.99		339.28
Kayamkulam				8.26	0		8.26
Sub total				**320.56**	**26.99**	**0**	**347.54**
Grand Total	**10074.07**	**322.37**	**9751.70**	**1542.84**	**111.49**	**1765.25**	**3419.58**
Average cost of power from CGS at Kerala periphery							**3.51/unit**

5.12 As per the estimates of the licensee, the average cost of power purchase from CGS would be Rs. 3.51 per unit, in comparison with Rs 3.18 per unit in 2012-13 & 2013-14 and Rs. 2.21 per unit in the year 2008-09.

Energy Purchase from Small IPPs:

5.13 The total energy availability and cost from small IPPs such as wind, SHPs, and cogeneration plants estimated by KSEBL for the year 2014-15 are as given below:

Table 5.9

Generation & Cost for Purchase of power from Wind and Other Small IPPs Proposed by KSEBL for 2014-15

Source	Capacity (MW)	Generation target (MU)	Per unit cost (Rs/ kWh)	Total cost (Rs. Cr)
Wind IPPs	33.67	70.43	3.14	22.12
Ullumkal SHP	7.00	34.00	2.00	6.80
MP steel- Co generation plant	8.00	40.80	2.31	9.42
Iruttukanam SHP- Stage-1	3.00	11.92	2.70	3.22
Iruttukanam SHP- Stage-2	1.50	3.60	2.96	1.07
PCBL	6.00	36.00	3.50	12.60
Total	**59.175**	**196.75**		**55.22**

5.14 From the small IPPs about 197MU is proposed to be purchased at a cost of Rs.55.22 crore.

Energy from liquid fuel stations

5.15 According to KSEBL, due to excessive cost of liquid fuel, the generation from BDPP and KDPP is limited to the possible extent. However, considering the shortage in northern part of the state and delay in commissioning of Mysore-Areekode transmission link, scheduling of KDPP during peak hours from July to November 201 is proposed by the licensee. However, from December 2014 onwards, the generation has to be increased to 1MU per day. In the case of BDPP, it is proposed to operate to generate 0.3MU per day in March 2015. The generation from RGCCPP is tied up with compensatory allocation from Talcher-II (180MW). It is proposed that about 75MW in January and February 2015 and 150MW in March 2015 is to be scheduled from RGCCPP. Accordingly, the proposed schedule from liquid fuel stations is as shown below:

Table 5.10

Generation and Power Purchase Proposed from Liquid Fuel Stations

Sl No	Name of the Station	Energy Purchase/ Schedule	Fixed Cost	Variable cost		Total
		(MU)	(Rs. Cr)	(Rs/kWh)	(Rs.Cr)	(Rs.Cr)
1	RGCCPP- Kylm	217.80	237.22	12.89	280.74	517.96
2	KDPP	235.25		11.65	274.07	274.07
3	BDPP	9.30		12.74	11.85	11.85
4	BSES	0	88.54			88.54
5	KPCL	0	2.80			2.80
	Total	462.35	328.56		566.66	895.22

Purchase from Traders:

5.16 For meeting the demand in 2014-15, the licensee is planning to import energy through traders by entering into contracts and also by purchase from exchanges. As per the estimates of the licensee, 4366MU of energy is required for the year 2014-15 to meet the projected energy demand. The licensee has stated that though contracts for 600 MW has been entered due to lack of availability of transmission corridor requests for MTOA was denied. Hence, LoI for procuring 348.5MW power from generators/traders from southern region for the period June 2014 to May 2015 was issued. Further LOI for purchasing power 175MW from February 2015 to May 2015 from southern region is also tied up. The month wise energy tied up by the licensee is as shown below:

Table 5.11

Details of Purchase of power tied up with traders

Month	MTOA-PTC	SR power	SR Power				Total	Average rate
	200 MW @Rs 4.20 per unit	301 MW @ Rs 7.00 per unit (Dec-2013 to May-2014)	18.50 MW from Uduppi Power corporation @ Rs 5.67 per unit at Kerala periphery	200 MW from M/s JSW PTC @ Rs 5.74 per unit at Kerala periphery	130 MW from M/s PTC India @ Rs 5.81 per unit at Kerala periphery	175 MW from M/sTPCIL @ Rs 5.91 per unit at Kerala periphery		
	(MU)	(MU)	(MU)	(MU)	(MU)	(MU)	(MU)	(Rs/kWh)
Apr-14	122.40	184.21					306.61	5.88
May-14	126.48	190.35					316.83	5.88
Jun-14			11.32	122.40	79.56		213.28	5.76
Jul-14			11.70	126.48	82.21		220.39	5.76
Aug-14			11.70	126.48	82.21		220.39	5.76
Sep-14			11.32	122.40	79.56		213.28	5.76
Oct-14			11.70	126.48	82.21		220.39	5.76

Nov-14			11.32	122.40	79.56		213.28	5.76
Dec-14			11.70	126.48	82.21		220.39	5.76
Jan-15			11.70	126.48	82.21		220.39	5.76
Feb-15			10.57	114.24	74.26	99.96	299.02	5.81
Mar-15			11.70	126.48	82.21	110.67	331.06	5.81
Total	248.88	374.56	114.73	1240.32	806.21	210.63	2995.33	5.80

5.17 As shown above, already 2995 MU of power has been tied up at an average rate of Rs.5.80 per unit. The balance requirement of 1371MU is proposed to be met from energy exchange and traders at an average rate of Rs.5.50 /unit.

5.18 Based on the above, total expenses towards generation and power purchase estimated by the licensee for 2014-15 are shown below:

Table 5.12

Summary of Cost of Generation and Power Purchase Proposed by KSEBL for 2014-15

Source	Energy Produced /Purchased	Auxiliary Consumption	External Loss	Net Energy	Fixed Cost	Incentive, Tax, etc.	Total Variable cost	Total Cost
	MU	MU	MU	MU	Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr
KSEBL Internal								
Hydel	6958.82	34.79		6924.02				
Wind –Kanjikode	1.70	0.00		1.70				
BDPP	9.30	0.23		9.07			11.85	11.85
KDPP	235.25	5.88		229.37			274.07	274.07
Sub total	7205.07	40.91		7164.16			285.91	285.91
Power purchase								
(a) CGS								
TALCHER - II	3113.74		99.64	3014.10	242.14	44.49	479.52	766.14
NLC- Exp- Stage-1	436.32		13.96	422.36	57.99	1.80	93.37	153.16
NLC-II- Stage-1	388.54		12.43	376.10	24.09	5.96	83.15	113.20
NLC-II- Stage-2	553.31		17.71	535.61	35.09	9.62	110.11	154.82
RSPTS Stage I & II	2359.28		75.50	2283.78	150.27	19.75	504.88	674.91
MAPS	128.55		4.11	124.44	26.19	0.43	0.00	26.62
KAIGA Stg I	242.74		7.77	234.97	72.95	0.60	0.00	73.55
KAIGA Stg II	225.05		7.20	217.85	67.64	0.00	0.00	67.64
Simhadri Exp	609.87		19.52	590.36	104.07	1.85	127.46	233.38
Kudamkulam	718.27		22.98	695.29	251.40	0.00	0.00	251.40
NLC - II Exp	293.93		9.41	284.53	35.27	0.00	62.90	98.17
Vallur JV with	301.81		9.66	292.15	45.27	0.00	64.89	110.16
Tuticurin JV	82.77		2.65	80.12	12.42	0.00	17.80	30.21
Jhajjar	619.88		19.84	600.04	97.50	0.00	221.17	318.67
Sub total (CGS)	**10074.07**		**322.37**	**9751.70**	**1222.28**	**84.50**	**1765.25**	**3072.03**
Wind and Other IPPs								
Wind	70.43			70.43			22.12	22.12
Ullumkal	34.00			34.00			6.80	6.80
MP Steel	40.80			40.80			9.42	9.42

Source	Energy Produced /Purchased	Auxiliary Consumption	External Loss	Net Energy	Fixed Cost	Incentive, Tax, etc.	Total Variable cost	Total Cost
	MU	MU	MU	MU	Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr
Irukkikkanam SHP-stage-1	11.92			11.92			3.22	3.22
Irukkikkanam SHP-stage-2	3.60			3.60			1.07	1.07
PCBL	36.00			36.00			12.60	12.60
Sub total	**196.75**			**196.75**			**55.22**	**55.22**
Traders	**2995.33**			**2995.33**			**1737.29**	**1737.29**
Traders & day ahead	**1370.91**			**1370.91**			**754.00**	**754.00**
IPPS								
RGCCPP	217.80			217.80	237.22		280.74	517.96
BSES	0.00			0.00	88.54		0.00	88.54
KPCL	0.00	0.00	0.00	0.00	2.80	0.00	0.00	2.80
Sub total	217.80			217.80	328.56	0.00	280.74	609.30
Total	14854.86			14532.49	1550.82	84.50	4592.51	6227.83
Transmission charges								
CGS					312.30	26.99		339.29
Kayamkulam					8.26	0.00		8.26
Sub total					320.56	26.99		347.55
Sub total power purchase	14854.86		0.00		1871.37	111.49	4592.51	6575.38
Total	22059.93	40.91	0.00	21696.65	1871.37	111.49	4878.43	6861.29

5.19 In order to meet the projected energy requirement of 21697MU for the year 2014-15, the expected cost will be Rs.6861.29 crore. The average cost of generation and- power purchase including transmission charges is worked out to be Rs.3.16 per unit in comparison with Rs.3.27 per unit projected for the year 2013-14.

Objections of Stakeholders

5.20 M/s KDHPCL stated that the comparison given by the KSEBL should cover all the states rather than selected states in India. Considering the average purchase cost, the off take from RGCCPP should be completely avoided even if power cuts are required. Shri. Parameswaran, Nedumangad stated that KSEBL has failed to avail open access for drawing cheaper power and the Tamil Nadu has availed the entire open access. The failure of KSEBL in this regard is to be noted. KSEBL could not complete the projects which are started and it has no plans to complete the projects

5.21 The HT-EHT Industrial Electricity Consumers Association strongly commented on the failure of KSEBL in procurement of cheaper power. The Association has highlighted the fact that though KSEBL is aware that there is a deficit of 15 to 20% in power, even now short term power and liquid fuel based stations are being depended for meeting the demand thereby paying 25% of power purchase cost for meeting 6% of the demand. KSEBL has not given adequate explanation for its failure to contract long term power. In the ARR&ERC order for 2012-13 and 2013-14, the Commission has issued directions for long term contracting of power immediately, which have not been complied with even now. As per the estimates based on the capacity weighted method, the Association estimated the hydro generation potential for 2014-15 at 7151MU. The net generation after considering the auxiliary consumption works out to 7116 MU. In the case of CGS, the Association stated that generation potential should be based on past three year actual performance and the auxiliary consumption should be as per the CERC norms. Thus energy from central generating stations estimated by the Association is 10460MU. The energy from SHPs should also include the projects likely to complete in this year, which is estimated at 47 MU. Thus the total energy from SHP estimated by the Association is 227MU. The balance energy needs to be purchased from traders and exchange is estimated at 2706MU only compared to the estimate of 4366MU by KSEBL. In the case of variable cost of CGS, due the revision of station heat rate, the variable cost will come down and in the case of fixed costs, change in incentive structure will reduce the costs. In the case of transmission charges, the ruling rates of point of connection slab rate for withdrawl in Kerala is 14 ps/kWh and 12ps/kWh for injection region. Thus the transmission cost will be Rs. 285.10 crore as against Rs. 348 crore estimated by KSEBL. According to the Association, the cost of energy from central generating stations is Rs.3435 crore. The association suggested that considering the easing of congestion in the southern region, the average rate of power purchase should be limited to Rs.5/kWh. Thus the total power purchase cost will be Rs.5751 crore instead of Rs.6861 crore projected by the KSEBL.

5.22 Shri. Satheesh representing M/s Carborandum Universal stated that hydro generation potential is also not properly estimated. The reduction in T&D loss is not enough and there is reduction in peak demand and shunt capacitors in the system. Based on their submissions they requested that hydel generation and energy requirement projection by KSEBL should be reworked and upper limit on the energy purchase rate should be fixed for the purchase from traders and exchange. Shri. Satheesh and Shri. Radhakrishnan stated that KSEBL failed to manage power purchase as C&AG has severely criticised the power purchase. KSEBL has not included energy from Karikayam in the purchases.

Analysis and Decision of the Commission

5.23 The cost of purchase of power and generation is the major item of expenditure item in the ARR of the licensee with a share of about 56.7% of the total ARR for 2014-15. In order to approve the proposed cost of purchase of power, the Commission has considered the projections of the licensee and the objections of the stakeholders in detail. The cost of generation and the cost of purchase of power have been increasing over the years, mainly on account of large dependence on energy from liquid fuel stations and short term power purchase. The position as per the proposal of KSEBL for 2014-15 is as shown below.

Table 5.13

Power purchase cost excluding transmission charges as estimated by KSEBL

Summary	MU	%	Rs.Cr	%	Rs./kWh
Total Hydel	6,924	31.91%		0.00%	
CGS	9,752	44.95%	3,072	47.16%	3.15
LFS	456	2.10%	895	13.74%	19.62
Others	197	0.91%	55	0.85%	2.81
Short term/traders	4,366	20.12%	2,491	38.25%	5.71
Total *	**21,697**		**6,514**		**3.00**

*Excluding transmission charges

5.24 It has to be specifically noted that, out of the total requirement of energy, about 22% is from liquid fuel stations and traders/exchanges, for which the cost is about 52% and the average cost works out to Rs.7.02 per unit, which is pushing up the cost of power in the State considerably.

Internal Hydro generation

5.25 The licensee has estimated the hydro generation at 6958MU, considering average daily generation of about 22.24MU in April and 19.19MU in May 2014. The generation available excluding the generation from small hydro plants and auxiliary consumption is estimated at 6924MU. Now the actual generation figures are available and hence the Commission is inclined to use the same. The actual opening balance of water in the reservoirs on 1-6-2014 is also available. Based on this, the Commission estimates the hydro availability for 2014-15 as given below:

Table 5.14

Hydro Generation Approved for 2014-15

	Energy equivalent in MU	
Actual Generation in April/May (MU)		1324
Reservoir level as on 1-6-2014 (MU)	634	
Less Reserve (MU)	550	
Balance available as on 1-6-2014 (MU)		84
Per day availability based on 20year average inflow (MU)	18.14	
Availability for June 2014 to March 2015 (18.14 X 304) (MU)		**5515**
Generation from Small Hydro (MU)		**181**
Total Hydel availability (MU)		**7,104**
Less Aux consumption (0.5%)		**7068**

5.26 Thus, as per the estimate of the Commission based on the actual opening balance of 1-6-2014, the hydro availability for the year 2014-15 will be around 7104MU. After considering the auxiliary consumption of 0.5%, the net availability will be 7068MU, as against the 6924MU projected by the licensee.

Cost of Generation from Internal Liquid Fuel Stations

5.27 KSEBL has projected the average variable cost of generation from BDPP and KDPP as Rs.12.74per unit and Rs.11.65 per unit respectively. The Commission in the previous orders have provisionally approved the benchmark parameters. The Commission continues to follow the same principle, but the average parameters reported by the KSEBL from April 2013 to March 2014 are taken for arriving at the benchmark parameters. The benchmark parameters reported by the licensee for the said period are given below:

Table 5.15

Actual Benchmark Parameters for BDPP and KDPP

	BDPP			KDPP		
Month & year	Gross heat rate (Kcal/kwh)	Gross Cal.Value of fuel (Kcal/kg)	Price of LSHS (Rs./MT)	Gross heat rate (Kcal/kwh)	Gross Cal.Value of fuel (Kcal/kg)	Price of LSHS (Rs./MT)
Apr-13	2070	10650	50651	2166	10242	50173
May-13	2115	10650	49520	2174	10285	48725
Jun-13	2181	10650	49534	2213	10236	49174
Jul-13		10650		2202	10259	51759
Aug-13		10650		2268	10259	51801
Sep-13		10650		2110	10176	54642
Oct-13		10650		2191	10176	54420

Nov-13	2242	10650	49534	2203	10198	54095
Dec-13	2496	10650	53031	2187	10198	53791
Jan-14	2529	10650	53539	2197	10190	54005
Feb-14		10650		2202	10239	54217
Mar-14		10650		2151	10239	54081
Average	2189	10650	50968	2173	10225	52574

5.28 It can be seen that the heat rate for the two plants reported in 2013-14 were 1859 Kcal/kWh for BDPP and 2124 Kcal/kWh for KDPP. At the same time as per the data furnished by KSEBL, the heat rate for both plants have been increased to 2189 Kcal/KWh for BDPP and 2173Kcal/kWh for KDPP. The KSEBL could not explain the increase in benchmark parameters. Though it is not a desirable trend, the Commission approves the same as per the details shown above for the year 2014-15.

5.29 The average fuel prices for LSHS reported for BDPP and KDPP are Rs.50968/MT and Rs.52574/MT respectively. For the purpose of estimating the variable cost for 2014-15, the Commission has adopted Rs.52000/MT for BDPP and Rs.53000/MT for KDPP. Based on these parameters, the fuel cost for BDPP and KDPP is estimated as shown below:

Table 5.16

Benchmark Parameters for BDPP and KDPP for 2013-14

	BDPP	KDPP
Auxiliary Consumption	2.50%	2.50%
Gross Heat Rate (kCal/kWh)	**2189**	**2173**
Average Calorific Value of Fuel (kCal/kg)	10650	10225
Fuel Consumption Factor	0.2055	0.2125
Price of Fuel (Rs./MT)	**52000**	**53000**
Cost per unit	**10.69**	**11.26**
Cost of lubricant oil etc.	0.15	0.05
Total Cost per unit (Rs./kWh)	**10.84**	**11.31**

5.30 KSEBL has projected variable cost of Rs.12.89 per unit for RGCCPP. No generation is proposed from BSES and KPCL. The Commission approves the rates proposed by KSEBL in respect of RGCCPP. Per unit costs for liquid fuel stations for 2014-15 are as follows:

Table 5.17

Approved Cost of Liquid Fuel Stations

	Proposed by the KSEBL (Rs./kWh)	Approved by the Commission (Rs./kWh)
BDPP	12.74	10.84
KDPP	11.65	11.31
RGCCPP	12.89	12.89

Availability of Power from CGS

5.31 The licensee has estimated gross availability of power from CGS stations as 10074MU. After accounting for losses, the net availability of energy at the Kerala periphery is taken as 9752MU. The Commission is not inclined to change the estimates of availability of power from CGS proposed by the licensee, except for Koodamkulam. In the case of Koodamkulam, the licensee has stated that the second unit will be available from December 2014. The corresponding generation for three months from January to March is also considered by the Commission for the purpose of ARR&ERC**.** Hence, the total net availability of energy from CGS estimated by the Commission is 9942MU as against 9752MU proposed by the licensee. The licensee has taken the average variable cost during the period from April to September 2013 for estimating the variable charges for central stations. The Commission approves the estimates of the average variable cost of CGS as projected by the licensee.

Table 5.18

Approved Variable Charges for Central Generating Stations for 2014-15

	Proposed for 2014-15 (Rs./kWh)	Approved for 2014-15 (Rs./kWh)
TALCHER - Stage II	1.54	1.54
NLC- Exp- Stage-1	2.14	2.14
NLC-II- Stage-1	2.14	2.14
NLC-II- Stage-2	1.99	1.99
RSPTS Stage I & II	2.14	2.14
Simhadri Exp	2.09	2.09
Kudamkulam	3.62	3.62
NLC - II Exp	2.14	2.14
Vallur JV with	2.15	2.15
Tuticurin JV	2.15	2.15
Jhajjar	3.57	3.57

Other Charges for Central Generating Stations:

5.32 The other charges include the incentives, tax, etc., periodically charged by CGS. As per the details provided by KSEBL, there is wide variation in the projections and actual figures of other charges for the CGS. The details are given in Table 5.7. The total other charges for 2011-12 was Rs.105.73 crore and the proposed charges for 2014-15 is Rs.111 crore. As per the new CERC regulations, returns to the Central Generating Stations have been allowed on post tax basis. Hence, other charges will decrease substantially. Accordingly, the Commission has sought split up details of other charges paid for the year 2013-14. The details are as shown below:

Table 5.19

Other Charges Paid to CGS for the year 2013-14

	Energy charge Revision claims	Tariff revision	IT Claims	Filing charges	Addnl O & M	SFC Price& Adjustment	Others	Total
	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)		(Rs. Cr)
NTPC RSTPS- I&II	5.76	-3.80	6.74	0.11	-	2.35	0.24	11.41
NTPC RSTPS- III	3.84	0.02	-	0.03	-	0.19	0.05	4.13
Talcher-II	30.91	14.95	-	0.63	-	3.13	8.92	58.53
ER- Tacher-I	1.15	0.01	0.23	0.00	-	0.01	0.06	1.45
ER- Farakka	6.41	-0.00	0.10	0.00	-	0.02	0.11	6.63
ER- Kahalgaon	1.79	-0.01	0.22	0.00	-	0.01	0.04	2.05
Simhadri	2.73	-	-	0.04	-	0.12	0.07	2.95
NLC I&II	0.70	0.10	-	0.07	9.99	2.83	0.76	14.46
NLC-TPS Expansion	0.78	-3.16	-	0.12	2.83	1.43	1.11	3.10
MAPS	-0.03	-0.14	-	-	0.10	-	0.00	-0.06
KAIGA	-	0.51	-	-	1.46	-	-0.31	1.66
Koodamkulam	9.04	-	-	-	-	-	0.09	9.13
Total	63.09	8.48	7.28	1.00	14.38	10.08	11.14	115.45

5.33 As can be seen that out of the Rs.115.45 crore, about Rs.73.17 crore is claimed as fuel adjustment charges/tariff revision/SFC revision. The changes in fuel cost are recovered on monthly basis periodically as part of energy charges. Other claims such as adjustment in tariff revision etc. are mainly the adjustments for the first two years when the provisional billing was resorted to. Since the CERC has fixed final tariff, the adjustment charges for ensuing years will be limited. Hence no provision for other charges is allowed for 2014-15 and the same can be claimed at actual during the truing up process.

Energy Availability from Wind and Small IPPs:

5.34 As per the projections of the licensee, energy availability from WEGs and small IPPs is about 197MU. The Commission has approved tariffs for WEGs, MP Steel Co- generation Plant and Iruttukanam projects. In the case of Philips Carbon Black India Ltd. (PCBIL), the licensee has proposed 36MU, whereas the purchase from this plant has not been approved by the Commission. The Commission also notes that the licensee has not included energy from Karikayam project. As per the DPR, the energy availability is about 67MU and the provisional rates agreed to by KSEBL and the company is Rs.4.16 per unit. The charges payable to these plants are approved considering these changes as shown below:

Table 5.20

Proposed Generation & Cost for Power from Wind and Other Small IPPs

	Proposed by KSEBL			Approved by the Commission		
Source	**Generation target (MU)**	**Per unit cost (Rs/ kWh)**	**Total cost (Rs. Cr)**	**Generation target (MU)**	**Per unit cost (Rs/ kWh)**	**Total cost (Rs. Cr)**
Wind IPPs	70	3.14	22.12	70	3.14	22.12
Ullumkal SHP	34	2.00	6.80	34	2.00	6.80
MP steel- Co generation plant	41	2.31	9.42	41	2.31	9.42
Iruttukanam SHP- Stage-1	12	2.70	3.22	12	2.70	3.22
Iruttukanam SHP- Stage-2	4	2.96	1.07	4	2.96	1.07
Karikayam				67	4.16	27.74
PCBL	36	3.50	12.60			
Total	**197**		**55.22**	**227**		**70.37**

Energy from Liquid Fuel Stations and Traders

5.35 The total energy available from the above sources (excluding liquid fuel stations & traders) is estimated at 17239MU. The balance energy required is given below:

Table 5.21

Energy Requirement from Liquid Fuel Stations and Traders/Exchanges

	Proposed by the Licensee (MU)	Approved By the Commission (MU)
Total Energy requirement	**21,696**	**21,630**
Internal Generation (Hydro&Wind)	6,926	7,070
Central Generating Stations	9,752	9,942
Small IPPs	197	227
Total (Internal, CGS & Small IPPs)	**16,874**	**17,239**
Balance Energy requirement	**4,822**	**4,391**

5.36 The balance requirement of energy has to be sourced from traders/exchanges and liquid fuel stations. Considering the high cost of generation from liquid fuel stations, the Commission has followed an approach of limiting the off-take from liquid fuel stations to the bare minimum required and the balance required to be procured from the market through traders and exchanges.

5.37 The licensee has estimated purchase of 218MU from RGCCP, which is allowed as estimated by the licensee. Similarly, generation from BDPP and KDPP is also approved as projected by the licensee. Accordingly, the Commission estimates the off take from internal liquid fuel stations and IPPs as 456MU for the year 2014-15. The balance energy requirement of 3935 MU needs to be procured through traders and power exchanges.

Table 5.22

Energy Generation/Purchase from Liquid Fuel Stations

Source	Proposed			Approved		
	Gross Energy (MU)	Net Energy (MU)	Variable charges (Rs./kWh)	Gross Energy (MU)	Net Energy (MU)	Variable charges (Rs./kWh)
BDPP	9	9	12.74	9	9	10.84
KDPP	235	229	11.65	235	229	11.31
RGCCPP	218	218	12.89	218	218	12.89
BSES	0			0		
KPCL	0			0		
Total	**462**	**456**		**462**	**456**	

Power procurement from traders and exchanges

5.38 In the absence of any generation capacity addition, KSEBL proposes to procure about 20% of its energy requirement from traders and exchanges, which accounts for about 40% of the power purchase cost. It is unfortunate that the licensee has not geared itself up for meeting this well anticipated scenario in spite of the Commission’s repeated directives. No fresh long term power purchase agreements have been concluded so far. It is well known that statutory provisions give priority for long term agreements to medium and short term agreements. There is an element of truth in the allegations raised in the public hearings that the licensee was not alert enough to take timely sensible commercial decisions thereby losing the opportunities to more vigilant neighbouring states. Even for contracted power there is no assured corridor access. In the letter dated 22-2-2013, the licensee has reported that by 23-4-2013 signing of PPA under case-1 bidding process for 300MW round the clock power and 100 MW peak power for a period of three years from March 2014 to February 2017 will be completed. However even now no progress has been reported.

5.39 In the petition, the licensee has provided information on the short term procurement already entered into. According to the licensee, about 2995MU can be procured from the contracts already entered into. However, the licensee KSEBL has mentioned that there is congestion in the southern region. The contracts entered into for 348MW from southern region from June 2014 to May 2015. Further 175 MW from the southern region from February 2015 to May 2015. The average rate of purchase from these sources is Rs.5.8 per unit. If the same amount of energy is allowed from the same sources as proposed by the licensee, then the balance 940 MU is to be procured from traders and energy exchange. As per the information given by the licensee, the entire quantity of energy to meet the demand has not been fully contracted by the licensee despite the repeated directions from the Commission for entering into long term contracts. The licensee has hence, exposed the State into vagaries and uncertainties of short term power. Therefore the Commission propose to impose a maximum limit beyond which KSEBL cannot purchase power from exchanges/traders. But the licensee should ensure that the combined monthly average cost of power from exchanges, traders and from UI for the remaining quantity of 940 MU shall not exceed Rs.5.00 per unit. Further the rate of any compensatory purchase on short fall due to unavailability of already contracted power also should not exceed Rs.5.00 per unit. It is possible to purchase the energy at rates of and below Rs.5 per unit considering the fact that the possibility of relieving congestion in southern region due to commissioning of transmission link with southern region and NEW grid and the enhancement of generation capacity in Tamilnadu and other southern states. The licensee has to obtain separate approval if the rates are higher than Rs.5/unit, by providing all details and justification before the Commission. The licensee shall submit a monthly statement to the Commission on the power purchased from traders, exchanges and UI for periodic review. Hence the total expenses from purchase of energy from traders/exchanges works out to Rs.2207.29 crore.

Transmission Charges Payable:

5.40 KSEBL has proposed transmission charges payable to CGS as Rs.312.30 crore and to RGCCPP as Rs.8.26 crore. As per the details furnished by the licensee, the actual transmission charged paid for 2012-13 and 2013-14 are Rs.264.48 crore and Rs.261.94 crore respectively, showing a declining trend. Hence the Commission approves the same amount as that of the actual for 2013-14 or 2014-15 also. The Summary of approved generation and power purchase including the cost is as shown below:

Table 5.23
Summary of Approved Power Purchase and Generation for 2014-15

Source	Energy Produced /Purchased	Auxiliary consumption/ External Loss	Net Energy Input to KSEBL T&D system	Fixed Cost	Variable cost /Unit	Total Variable cost	Total Cost
	MU	MU	MU	Rs. Cr	Rs/kWh	Rs. Cr	Rs. Cr
KSEBL Internal							
Hydel	7104	36	7068				
Wind - Kanjikode	2	0	2				
BDPP	9	0	9		10.84	10.08	10.08
KDPP	235	6	229		11.31	266.07	266.07
Sub total	7350	42	7309			276.15	276.15
Power purchase							
(a) CGS							
TALCHER - Stage II	3114	100	3014	242.23	1.54	479.52	721.75
NLC- Exp-Stage-1	436	14	422	58.06	2.14	93.37	151.43
NLC-II- Stage-1	389	12	376	24.12	2.14	83.15	107.27

Source	Energy Produced /Purchased	Auxiliary consumption/ External Loss	Net Energy Input to KSEBL T&D system	Fixed Cost	Variable cost /Unit	Total Variable cost	Total Cost
NLC-II- Stage-2	553	18	536	35.07	1.99	110.11	145.18
RSPTS Stage I & II	2359	75	2284	150.05	2.14	504.88	654.93
MAPS	129	4	124	26.19		0.00	26.19
KAIGA Stg I	243	8	235	72.95		0.00	72.95
KAIGA Stg II	225	7	218	67.64		0.00	67.64
Simhadri Exp	610	20	590	104.09	2.09	127.46	231.55
Kudamkulam	915	29	886	320.27	3.62	0.00	320.27
NLC - II Exp	294	9	285	35.27	2.14	62.90	98.17
Vallur JV with	302	10	292	45.27	2.15	64.89	110.16
Tuticurin JV	83	3	80	12.42	2.15	17.80	30.21
Jhajjar	620	20	600	97.50	3.57	221.17	318.67
Sub total (CGS)	10271	329	9942	1291.13		1765.25	3056.39
Wind and Other IPPs							
Wind	70		70		3.14	22.12	22.12
Ullumkal	34		34		2.00	6.80	6.80
MP Steel	41		41		2.31	9.42	9.42
Iruttukanam SHP-stage-1	12		12		2.70	3.22	3.22
Iruttukanam SHP-stage-2	4		4		2.96	1.07	1.07
Karikayam	67		67		4.16	27.74	27.74
Sub total	227		227			70.36	70.36
Traders							
Traders (contracted)	2995		2995		5.80	1737.29	1,737.29
Traders & day ahead	**940**		**940**		**5.00**	**470.00**	470.00
IPPS							
RGCCPP	218		218	237.22	12.89	280.74	517.96
BSES	0		0	88.54		-	88.54
KPCL	0		0	2.80		-	2.80
Sub total	218		218	328.56		280.74	609.30
Sub total power purchase	14650	329	14322	1620		4323	5943.35
Transmission charges-PGCIL							
CGS			0.00	253.75		0.00	253.75
Kayamkulam			0.00	8.19		0.00	8.19
Sub total				261.94			261.94
Total	**22001**	**370**	**21630**	**1881.63**		**4599.30**	**6481.43**

Thus Commission allows Rs.6481.43 cores forwards generation and power purchase for the year 2014-15.

Monthly Generation Schedule

5.41. Based on the data furnished by the licensee, the month wise energy approved for the purpose of estimating the fuel surcharge in accordance with KSERC (Fuel Surcharge Formula) Regulations 2009 is given in the Annexure V.

Interest and Finance Charges:

5.42 In the petition, the licensee has stated that, in the past, the estimation of additional borrowing requirements were made after considering all internal accruals including depreciation and other non-cash items. The excess resources have been judiciously earmarked for repayment of existing capital liabilities. In order to reduce the overall cost of borrowing, low cost short term loans are availed to meet the capital expenditure. However, considering the risks involved in funding capital projects with short term loans, the licensee has now decided to avail project specific long term loans and has already availed Rs.86.63 crore from financial institutions. Project specific loans are also to be availed for the projects viz., Barapole SHP (15MW), Chathankottunada (6MW), Chimmony (2.5MW), upper Kallar (2MW), Adyanpara (3.5MW) and Mankulam (40MW). The details of projects for which funds are tied up are given below:

Table 5.24
Details of project specific loans availed

Sl No	Particulars	Name of the lender	Loan sanctioned (Rs. Cr)	Loan availed so far (Rs. Cr	Interest rate (%)
	Generation projects				
1	Pallivasal Extension Scheme	PFC	387.41	177.11	11.75%
2	Kakkayam SHP (3 MW)	PFC	21.95		12.00%
3	Sengulam SHP (6MW)	PFC	38.45		12.25%
4	Thottiar (40 MW)	PFC	171.58		12.50%
5	Vellathooval SHP (3.6 MW)	PFC	28.07		12.00%
6	Vilangad (7.5 MW)	PFC	61.24		12.00%
	Total		708.7		
	Transmission projects				
1	Kattakada- Pothencode Transmission scheme	REC	207.22	86.63	12.00%

5.43 As per the accounts, the closing balance of loans at the end of 2012-13 was Rs.2134.20 crore. Though the proposed capital investment was Rs.1448.88

crore in 2012-13, the actual investment was only Rs. 843.57 crore and the net additional borrowing for capital investment was Rs.777.86 crore. The details are given below:

Table 5.25

Details of outstanding loans as on 31-3-2013

S.No	Item	Opening Balance		Borrowing		Redemption		Closing Balance	
		ARR	Accounts	ARR	Accounts	ARR	Accounts	ARR	Accounts
		(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)
I	Long term loans	569.17	556.34	0.00	123.34	71.12	71.49	498.05	608.20
II	Short term loans	1100.00	800.00	1200.00	2376.00	0.00	1650.00	2300.00	1526.00
III	Total loans from Financial Institutions(II+III)	1669.17	1356.34	1200.00	2499.35	71.12	1721.49	2798.05	2134.20

5.44 Due to the shortage of hydro generation and consequent purchase of costly power from short term sources, the licensee has availed overdrafts to meet the short fall in funding requirements. Accordingly, as on 31-3-2013, the outstanding overdraft was Rs.1942.96 crore with overall interest of Rs.167.94 crore for 2012-13. The total interest and financing charges for 2012-13 was Rs.580.53 crore.

5.45 For the year 2013-14, the licensee has submitted that though the revenue gap allowed was Rs.1049.91 crore, the tariff revision effected from May 2013 to March 2014 would fetch additional Rs.642.47 crore only, leaving a revenue gap of Rs.407.44 crore. The accumulated revenue gap as on 1-4-2013 as per accounts was Rs.1737.92 crore. The additional liability on account of purchase of power during 2012-13 was about Rs.2500 crore. The Commission has issued KSERC (Fuel Surcharge Formula) Regulations, 2009. The licensee has to assess the fuel cost recovery rate (FCRR) in accordance with sub-regulation (2) of regulation 3 of the said Regulations. The FCRR as assessed by the licensee shall be got approved in accordance with the provisions of regulation 3 of the said Regulation and the approved difference in FCRR shall be adjusted from the 3rd month of subsequent quarter onwards or as directed by the Commission. As per sub-regulation (7) of regulation 3 of the said Regulations every distribution licensee shall, within 15 days after the end of each quarter, submit before the Commission, the necessary details for estimation of FCRR to be passed on to the consumer. KSEBL has not preferred any claim in this regard till date. According to the licensee, it was to avoid the tariff shock. In view of the statutory provisions mentioned above it can be seen that the claim for fuel cost adjustment in respect of the above amount has become time barred. In the absence of any petition for allowing FCRR, it has to be concluded that the licensee has forfeited its claim for fuel cost adjustment, the responsibility of which is solely on the licensee. As on the end of February, 2014, the overdraft and short term loan account balance is Rs.3878.94 crore.

5.46 The licensee has proposed capital expenditure of Rs.1521 crore for the year 2013-14, whereas the revised estimate would be Rs.1157.95 crore. Though updated details of progress for 2013-14 was sought by the Commission same was not provided, except the physical progress. It was proposed by the licensee to avail Rs.100 crore additionally for capital expenditure@12% in the month of March 2014. The summary of revised estimate of interest on loans for 2014-15 is shown below:

Table 5.26

Revised Estimate of Borrowing & Interest Charges for 2013-14 projected by KSEBL

Sl. No.	Particulars	Rate of Interest in %	Balance at the beginning of the year	Amount Received during the year up to 28.02.2014	Amount Redeemed during the year	Balance out standing at the end of the year	Interest for the year
			(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)
I	Loans from others secured						
	REC	*7.00 - 11.75*	76.16	0.00	29.77	46.39	5.33
	LIC	*9.00*	12.00	0.00	2.00	10.00	0.86
	Subtotal		88.16	0.00	31.77	56.39	6.19
II	Loans from others unsecured						
	LIC	*9.00*	13.19	0.00	7.52	5.67	0.95
	REC	*7.00 - 11.75*	255.87	47.49	24.19	279.17	30.17
	PFC-R-APDRP-Part A	*11.5*	89.26	0.00	0.00	89.26	8.03
	PFC-R-APDRP-Part B	*11.5*	161.74	0.00	0.00	161.74	14.56
	PFC	10.0	0.00	177.11	0.00	177.11	17.71
	REC MTL		0.00	650.00	0.00	650.00	60.07
	Short Term Loans	*11.50*	1525.98	2076.00	2476.00	1125.98	146.66
	Subtotal		2046.04	2950.60	2507.71	2488.93	278.15
	Additional borrowing 01.03.2014 to 31.03.2014	*12.0*	0.00	100.00	0.00	100.00	1.00
	Total		2134.20	3050.60	2539.48	2645.32	285.34

5.47 The outstanding capital liability is likely to increase from Rs.2134.20 crore to Rs.2645.32 crore at the end of 2013-14, which amounts to a net increase of

Rs.511.12 crore during the current year. The revised summary of borrowing and repayment for the year 2013-14 is as given below:

Table 5.27

Summary of Borrowings & Repayments for the year 2013-14

Item	Opening Balance as on 01-04-2013		Borrowing during the year 2013-14		Redemption during the year 2013-14		Closing Balance as on 31-03-2014	
	ARR (Rs. Cr)	Revised (Rs. Cr)	ARR (Rs. Cr)	Revised (Rs. Cr)	ARR (Rs. Cr)	Revised (Rs. Cr)	ARR (Rs. Cr)	Revised (Rs. Cr)
Loans from GOK	0	0	0	0	0	0	0	0
Existing Bonds	0	0	0	0	0	0	0	0
Loans from Financial Institutions	2209.97	2134.20	750.00	3050.60	72.70	2539.48	2826.15	2645.32
Total	2209.97	2134.20	750.00	3050.60	72.70	2539.48	2826.15	2645.32

5.48 The capital expenditure proposed for the year 2014-15 is Rs.1300 crore. There is no additional equity proposed for 2014-15. The consumer contribution and grants will be to the tune of Rs.367.29 crore and balance Rs.932.71 crore is to be availed from financial institutions. It is also proposed to repay the short term loans outstanding by availing fresh loans and the capital expenditure is proposed to be funded through project specific loans. The summary of estimated interest charges proposed by the licensee for 2014-15 is shown below:

Table 5.28

Interest Charges on Loans and Bonds for the year 2014-15 Proposed by KSEBL(Rs.cr)

Particulars	Rate of Interest in %	Balance at the beginning of the year	Amount Received during the year - FY 2014-15	Amount Redeeme d during the year	Balance out standing at the end of the year	Interest for the year
		(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
Loans from others secured						
REC	*8.00% - 13.25%*	46.39	0.00	26.00	20.39	2.90
LIC	*9.50%*	10.00	0.00	2.00	8.00	0.81
Subtotal		56.39	0.00	28.00	28.39	3.71
Loans from others unsecured						
LIC	*9.50%*	5.67	0.00	3.67	2.00	0.35
REC	*8.00% - 13.25%*	279.17	0.73	27.89	252.01	29.95
PFC-R-APDRP-Part A	*11.50%*	89.26	0.00	0.00	89.26	10.26
PFC-R-APDRP-Part B	*11.50%*	161.74	0.00	0.00	161.74	18.60
PFC	12.00%	177.11	68.00	0.00	245.11	21.11
REC MTL	12.50%	500.00	0.00	83.33	416.67	57.29
REC MTL	13.00%	150.00	0.00	0.00	150.00	19.50
Short Term Loans	*11.50%*	1125.98	1125.98	1125.98	1125.98	129.49

Particulars	Rate of Interest in %	Balance at the beginning of the year	Amount Received during the year - FY 2014-15	Amount Redeemed during the year	Balance out standing at the end of the year	Interest for the year
		(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
Additional borrowing 01.03.2014 to 31.03.2014	*12.00%*	100.00	0.00	0.00	100.00	12.00
Subtotal		2588.93	1194.71	1240.87	2542.77	298.55
Additional borrowing 01.04.2014 to 31.03.2015	*12.00%*	0.00	863.98	0.00	863.98	51.84
Total		2645.32	2058.69	1268.87	3435.14	354.11

5.49 As per the estimates of the licensee, the revised interest on working capital for 2013-14 and 2014-15 will be about Rs.250 crore, considering the over draft position and the revenue gap for the previous years. The licensee stated that though security deposit from the consumers is available, the same is used as internal resources for meeting the capital expenditure and is not available to meet the working capital interest.

5.50 The interest payable on the security deposit is estimated at Rs.126.90 crore for 2013-14 and Rs.149.79 crore for 2014-15 considering the bank rates as on 1st April @8.00% for 2013-14 and 8.5% for 2014-15. The addition to security deposit is estimated as shown below:

Parameter	2013-14	2014-15
Opening: Consumer Security Deposit as on 1st April2012 &2013 - Rs. Cr	1586.30	1761.93
Interest rate (%)	8.00%	8.50%
Interest Charges - Rs. Cr	126.90	149.76

5.51 The rebate payable to the consumers is estimated at Rs.1 crore for 2014-15. The interest on Provident Fund balance is estimated at Rs.116.87 crore considering the average balance of Rs.1328.05 crore for 2014-15 as shown below:

Parameter	**2013-14**	**2014-15**
Opening: Provident Fund as on 1st April - Rs. Cr	1152.05	1267.72
Addition during the Financial Year - Rs. Cr	115.68	120.65
Closing: Provident Fundy as on 31st March - Rs. Cr	1267.72	1388.37
Average Consumer PF during the Financial Year- Rs. Cr	1209.88	1328.05
Average interest rate (%)	8.80%	8.80%
Interest Charges - Rs. Cr	**106.47**	**116.87**

5.52 Rs.1 crore is earmarked as cost of raising finance and the guarantee commission payable to the Government is estimated at Rs.0.42 crore. Other charges and bank charges are estimated at Rs.6.5 crore for the year 2014-15.

5.53 The capitalization of interest and finance charges for 2013-14 and 2014-15 are estimated by KSEBL considering historical trend of capitalization of interest expenses and proposed additional borrowings in 2013-14 and 2014-15. Accordingly, the interest expenses capitalized are estimated at Rs. 114.14 crore for 2013-14 and Rs. 141.64 core for 2014-15

Interest on Bonds for Meeting Pension Liabilities

5.54 The licensee has proposed to meet the pension liabilities by establishing a Master Trust as per the provisions of the transfer scheme approved by the Government. As per the provisions of transfer scheme, the existing manpower of KSEB will be transferred to KSEB Limited. and all the terminal benefit liabilities outstanding as on the effective date of transfer scheme i.e. 31st October 2013 in respect of existing employees, pensioners and family pensioners of KSEB will be transferred to KSEBL. The liability has to be calculated by a registered actuary and since the liability is unfunded, necessary arrangements have to be made for funding the liability.

5.55. The licensee, KSEBL also stated that it is required to adopt Accounting Standard 15 for accounting the retirement benefits. Also, under Section 209 of Companies Act, 1956 the accounts of the Company shall be maintained on accrual basis. Hence, KSEBL has arrived at an appropriate plan for funding terminal liabilities since it has to move away from its current “Pay As You Go” approach. The licensee has stated that as per Clause 6 of the Second Transfer Scheme funding mechanism for terminal liability has been specified as given below:

> *“(8) The State Government shall notify appropriate arrangements in respect of the funding of the terminal benefits to the extent they are unfunded on the date of the transfer of the Personnel from the erstwhile Board or KSEB. As per actuarial valuation carried out by registered valuer, the provisional figure of unfunded liability is approximately Rs. 7584 crore (Seven thousand five hundred and eighty four crores) as on 30th September 2011. Actuarial valuation of terminal liabilities at the time of transfer will be made as provided under clause 9(3) of this scheme. Till such time arrangements are made, the Transferee and the State Government shall be jointly and*

severally responsible to duly make such payments to the existing pensioners as well as the personnel who retire after the date of transfer but before the arrangements are put in place. The State Government, Kerala State Electricity Board Ltd. and employees' union may enter into a tripartite agreement in consideration of the promises and mutual conditions set forth therein. A model Tripartite Agreement is appended as Schedule–C;

(9) The State Government will fund Rs. 3186 Crores (Three thousand one hundred and eighty six crores) over a period of next 10 years to Kerala State Electricity Board Ltd. on annual basis for meeting the unfunded terminal liabilities.

(a) Kerala State Electricity Board Ltd will issue two series of bonds to a Master Trust:

(i) 20 year bond with a coupon rate of 10% p.a. for Rs.5021 Crores (Five thousand and twenty one crores)

(ii) 10 year bond with a coupon rate of 9% p.a. for Rs. 2039 Crores (Two thousand and thirty nine crores)

(b) Bonds will be issued to the Trust to meet the liability of pension etc. in future from the interest and principal repayment from Kerala State Electricity Board Ltd. against the bonds issued in favour of the Trust. With these arrangements the fund shall have a liability towards pension etc. of Rs. 7584 Crores (Seven thousand five hundred and eighty four crores) (app.) as on 30th September 2011 with matching investments in securities issued by Kerala State Electricity Board Ltd. for Rs. 7060 Crores (Seven thousand and sixty crores)only.

(c) Another Rs. 524 Crores (Five hundred twenty four crores) will be funded by State Government through budgetary provision over next 10 years in equal installments as per GO (MS) No. 43/2011/PD dated 3rd November 2011.

(d)State Government will permit that the electricity duty collected by KSEB for the period from 01.04.2008 to 31.03.2012 to be retained in the Kerala State Electricity Board Ltd as its contribution for funding the terminal liability.

(e) In addition to the interest on bonds and repayment of principal, Kerala State Electricity Board Ltd. will be paying the annual pension contribution based on actuarial valuation to the Master Trust in respect of the Personnel transferred to Kerala State Electricity Board Ltd. The unfunded liability upto the date of transfer will be

borne and shared between the State Government and the Kerala State Electricity Board Ltd. Any addition to the liability of Rs.7584 Crores (Seven thousand five hundred and eighty four crores) will be borne and shared by the State Government and the Kerala State Electricity Board Ltd. in the ratio of 35.4:64.6 respectively."

5.56 The KSEBL has further stated that as per revised actuarial valuation, the provisional figure of unfunded terminal liability is approximately estimated at Rs.12419 crore as on 31st October 2013. As per the provisions of the Scheme, to fund this terminal liability KSEBL will issue two series of bonds to the master trust, which will meet all future pension liabilities.

(a) 20 year bond in favour of Master Trust with a coupon rate of 10% for Rs.8144.41 crore.

(b) 10 year bond in favour of Master Trust with a coupon rate of 9% for Rs.3750.59 crore (Back to back funding from GoK. Interest and Repayment will be made by the State Government).

(c) Another Rs. 524 corewill be funded by GoK through budgetary provision over next 10 yrs. in equal installments as per GO (MS) No. 43/2011/PD dated 3.11.2011.

5.57 The KSEBL will be required to meet the debt obligation for the 20 year bond issued to Master Trust. However, the repayment of principal amount on these bonds is not claimed so as to avoid tariff shock for consumers and it is intended to repay the principal amount with additional cash inflow due to increase in RoE. The interest expense on pension bonds to be recovered from ARR for 2014-15 is Rs. 814.44 crore, which is estimated considering principal of Rs. 8144.41 crore and interest rate of 10%.

5.58 KSEBL further claimed that that Appellate Tribunal for Electricity and other Commissions such as HERC, WBERC, OERC have allowed the interest expenses on the bonds issued for funding terminal liabilities. Hence KSEBL requested that the interest expense for the year 2014-15 on account of bonds to be issued to Master Trust to fund terminal liabilities is to be allowed in the ARR&ERC for 2014-15. The summary of total interest and financing charges proposed by the licensee for 2014-15 is given below:

Table 5.29

Summary of Interest and Finance Charges proposed by the KSEBL for 2014-15

Particulars	2012-13	2013-14		2014-15
	Accounts Rs.crore	Approved Rs.crore	Revised Rs.crore	Estimate Rs.crore
I - Interest on outstanding Loans	182.36	284.23	285.34	354.11
II - Interest on Security Deposit	113.98	85.48	126.90	149.76
III - Other Interest and Finance Charges				
Interest on borrowings for working capital	167.94	0.00	250.00	250.00
Rebate to consumers for timely payment	-0.11	1.00	0.80	1.00
Interest on PF	96.33	85.00	106.47	116.87
Interest on Bonds Issue to Master Trust by KSEBL			0.00	814.44
Cost of raising finance:	0.00	1.00	1.00	1.00
Guarantee Commission	20.02	0.66	0.66	0.42
Bank Charges		8.00	6.00	6.50
Total of (III)	284.18	95.66	364.93	1190.23
Grand Total (I+II+III)	580.53	465.37	777.17	1694.10
Interest and Finance Charges Capitalized	116.06	62.71	114.14	141.64
Net Interest and Finance Charges	464.47	402.66	663.04	1552.46

Objections of the Stakeholders

5.59 KSEB Officers Association stated that the interest charges includes the funding of pension liabilities which needs to be allowed. Similarly, the depreciation, R&M expenses, A&G expenses etc., needs to be allowed as projected. The expenses projected are comparable to the inflation rate in the country. According to the Kerala HT-EHT Industrial Electricity Consumers Association, the capital expenditure required for 2014-15 can be pegged at Rs.988 crore and hence, the interest for additional borrowing will be Rs.26 crore only. According to the Association the working capital requirement projected by the KSEBL is due to large arrears from government agencies, which needs to be compensated by the Government as KSEBL is no more part of the Government. Since the master trust is not formed by yet the interest charges due shall not be allowed on this account. Thus the interest charges required for the year will be only Rs.600 crore instead of Rs.1694 crore sought by the KSEBL.

Analysis and Decision of the Commission

5.60 The main difference in interest and financing charges proposed by the licensee for 2014-15 compared to 2013-14 is the claim of interest charges for the master trust to be created for funding terminal liabilities. In addition, the licensee has also stated that project specific loans are being taken for reducing the risks associated with short term financing of capital projects. As per the petition, the estimated opening balance of outstanding liabilities as on 01-04-2014 is Rs.2645.32 crore. Of this only Rs.56.39 crore is secured loans and the short term loans is for Rs.1225.98 crore. For 2013-14, the KSEBL has proposed to avail Rs.100 crore as additional short term loans. Though it claimed that project specific loans are sanctioned, only small amount is availed now. It can be seen that major chunk of borrowing is still short term loans and considering the level of capital expenditure, it can be seen that the short term loans availed are not seen fully utilized for capital expenses, as in the case of previous years. Further the licensee has not given consistent figures on the borrowing. It is stated that REC had sanctioned the loan for transmission projects for which interest rate is specified as 11.5% and 12%.

5.61 It is pertinent to mention that once the project specific loans are availed, the licensee shall take specific approval for the projects and the funding plan. The interest charges will be then allowed project specific and all the other loans will be treated as loans for operations. Hence it is directed that, in order to get the approval for interest charges, the licensee shall in advance obtain approval of the Commission for the projects and the funding plan and the interest charges shall be claimed by the licensee and approved by the Commission only as per the approved plan. There has to be separation for loans taken for capital projects and for operations.

5.62. The licensee has proposed capital expenditure of Rs.1300 crore and borrowing of Rs.863.98 crore for 2014-15. The Commission after considering the progress of capital expenditure, has provisionally allowed the capital expenditure for Rs.1000 crore for 2014-15, since, the maximum limit of capital expenditure incurred by the licensee in the recent past was Rs.1019 crore in 2011-12.

5.63 As per the details given by the licensee, the estimated addition to PF account balance will be Rs.120 crore, addition to security deposit and contribution from consumers will be Rs.190 crore and Rs.367.29 crore respectively. There is also a possibility that the additional security deposit will be available in the next year on account of revision in tariff effected this year. From the above, Rs.367.29 crore of consumer contribution is available for the capital expenses. Hence, for the purpose of ARR&ERC, the Commission considers an additional borrowing requirement of Rs.632.71 crore (Rs.1,000 crore-

Rs.367.29 crore) for capital expenditure for the year 2014-15. The licensee has shown short term borrowing Rs.100 crore for the period from 01-03-2013 to 31-03-2014. Since the same is for the period 2013-14, the same is not considered for the year 2014-15. Accordingly, the interest charges for the year 2014-15 is allowed as shown below:

Table 5.30

Interest Charges on Loans Approved by the Commission for 2014-15

Particulars	Rate of Interest in %	Balance at the beginning of the year	Amount Received during the year - FY 2014-15	Amount Redeemed during the year	Balance out standing at the end of the year	Interest for the year
		(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
Loans from others secured		56.39	-	28.00	28.39	3.71
Loans from others unsecured		2,488.93	1,194.71	1,240.87	2,442.77	286.55
Additional borrowing 01.04.2014 to 31.03.2015	*12.00%*	-	632.71	-	632.71	37.96
Total		2,545.32	1,827.42	1,268.87	3,103.87	328.22

5.64 The Commission notes that the licensee has not proposed any repayments of short term loans, though depreciation and other funds are available. The reason could be that the loans availed are used for meeting the working capital requirements and meeting the revenue gaps over and above the approved level. In the absence of details, the Commission is not modifying the estimates of the licensee. However, in the truing up process, interest charges will be allowed only after prudence check irrespective of the actuals.

5.65 The licensee has proposed interest on working capital of Rs.250 crore. The interest on working capital proposed for 2013-14 was only Rs.100 crore. The main reason for the increase in working capital requirements in the form of overdrafts and other short term loans is on account of unmet revenue gap. According to the licensee there is unmet revenue gap even at the approved level. In this context, it is to be mentioned that the licensee has not filed truing up petitions from 2011-12 and any revenue gap can be reasonably ascertained after the truing up process. Further, the licensee has not furnished the petitions for fuel surcharge on time to avoid accumulation of additional power purchase cost. It is to be pointed out that the licensee cannot be compensated for its lapses in filing of petition in time. The ARR&ERC petitions are also considerably delayed in the current year it was delayed by about 6 months. Further the licensee has seldom furnished tariff proposal for adequately meeting the revenue gap. The revenue gap is proposed at abnormal levels and requests are made for converting the same as regulatory assets. It is well known principle that regulatory assets are not meant to coverup the revenue gap. The revenue gap if any has to be met through appropriate tariff applications. It is also the duty of the licensee to avoid tariff shock. In doing so, the licensee has to prudently manage its operations and costs. In the regulatory regime, the expenses can be passed on to the consumers only after examining the prudency, propriety and usefulness of the expenditure.

5.66 As mentioned in chapter 1, the truing up is complete till 2010-11 and the revenue gap after truing up is Rs. 424.11 crore only. The Commission is inclined to give interest for the revenue gap already recognised after truing up. However, in this context it is to be mentioned that the interest allowed is only provisional. After the truing up, there may be many changes due to netting off of dues with government, transfer scheme, revaluation of assets, writing off the dues, adjustment of government duty against the revenue gap etc., All these have to be properly taken into consideration while assessing the revenue gap for the past years, so that the benefits received in all the accounts should be properly evaluated to avoid undue enrichment to the licensee or to the consumers.

5.67 Thus considering the above, interest @12% is allowed for Rs.424.11 crore for the year 2014-15, purely as a provisional measure. As already pointed out, in order to meet short term liabilities, the addition to security deposits and provident fund to the tune of Rs.310 crore is also available.

5.68 Regarding the creation of Master Trust and interest on terminal liabilities, the Commission is inclined to approve in principle, the proposal of the KSEBL. It is expected that though initially the burden of creating the Master Trust is high and is loaded on to the tariff, it is expected that gradually the net burden on funding the pension liabilities will be reduced over the years considering the reduction in interest payment on the bonds. However, it is to be noted that the Government still not approved the revised transfer scheme and as per the approved scheme the size of trust is Rs.7584 crore. The licensee has furnished a revised scheme enhancing the size of Master Trust after taking into account the actuarial valuation of the liabilities as on 31-3-2013. The Commission has not examined the propriety of the valuation of terminal liabilities. As per the statement of the licensee, it includes, pension liabilities, earned leave contribution, provident fund balance etc. Further, the Commission would also examine the input parameters used for the estimation of yearly actuarial valuation since as per the Companies Act, the unfunded liabilities have to be properly included in the accounts. However, the Commission is of the view that the revised proposal of the licensee to allow the interest charges payable to the Master Trust during this year itself can be approved purely on a provisional basis. The final amount allowed in this regard will be subject to the final approval of the amount allowed in this regard will be subject to the final approval by the Government and prudence check by the Commission.

5.69 The licensee has also committed that repayment of principal will not be charged on to the ARR and the same will be funded out of increase in return on equity. This undertaking is accepted by the Commission. The Commission also notes that there is adequate fund available for meeting the repayment obligation from the other non-cash resources. Hence, the repayment obligation shall not be additionally loaded on to the consumers.

5.70 In this connection, following directions are issued for immediate compliance:

- KSEBL shall complete the formation of Master Trust on or before 30th of October 2014, the last date fixed for notification of the Final Transfer Scheme and submit all details to the Commission.
- The KSEBL shall issue the bonds as required for the formation of Master Trust and the interest shall be credited to the fund on a monthly basis.
- The amount due from the government to be adjusted against the electricity duty shall also be adjusted and credited to the fund on a monthly basis.
- The payment of pension shall be effected from the trust once the Master Trust is formed.
- A monthly progress report on all the credits and debits to the fund shall be submitted to the Commission promptly.
- The details of the methodology adopted and the estimation of yearly contribution of pension for the existing employees shall be submitted as part of the ARR&ERC petition.
- Any delay in constitution of fund, the corresponding interest charges will be deducted from the interest due.
- The licensee shall complete the statutory requirements as per the Companies Act in a time bound manner.

5.71 The licensee has projected other items such as interest on security deposit (Rs.149.79 crore), rebate for prompt payment (Rs.1.00 crore), interest on provident fund balance (Rs.116.87 crore) and bank charges (Rs.6.5 crore). The Commission approves the estimates of the licensee in this regard. Thus, the total interest and financing charges approved for 2014-15 are as given below:

Table 5.31

Approved Interest and Financing Charges for 2014-15

Particulars	**2014-15**	
	Estimate	Approved
I - Interest on outstanding Loans	354.11	328.22
II - Interest on Security Deposit	149.76	149.76
III - Other Interest and Finance Charges		
Interest on borrowings for working capital	250.00	50.89
Rebate to consumers for timely payment	1.00	1.00
Interest on PF	116.87	116.87
Interest on Bonds Issue to Master Trust by KSEBL	814.44	814.44
Cost of raising finance:	1.00	1.00
Guarantee Commission	0.42	0.42
Bank Charges	6.50	6.50
Total of (III)	1,190.23	991.12
Grand Total (I+II+III)	1,694.10	1469.11

Depreciation

5.72 In the petition, KSEBL has claimed depreciation in line with its approach adopted in the Tariff Petition for 2013-14, considering CERC 2004 depreciation rates for assets that are more than 12 years old and new rates for assets created within last 12 years as shown below.

Parameter	**FY 2013-14**	**FY 2014-15**
Portion of GFA to which depreciation rates in CERC, 2004 regulations will be applied	GFA as on 1st April 2001	GFA as on 1st April 2002
Portion of GFA to which depreciation rates in CERC, 2014 (same as 2009) regulations will be applied	GFA as on 1st April 2013 minus GFA as on 1st April 2001	GFA as on 1st April 2014 minus GFA as on 1st April 2002

As per the transfer scheme, the gross fixed assets have been revalued with an addition to the tune of Rs.4990 crore ie., as per the provisional accounts of KSEB, the value of GFA as on 31-3-2013 was Rs.17,683 crore. However, the depreciation is claimed for the original assets value of Rs.12,692 crore its addition afterwards. In 2013-14, KSEBL proposes to capitalise Rs.1019.45 crore, hence, the opening GFA is considered as Rs.13712.31 crore. KSEBL is not claiming depreciation on consumer contribution and grants. As per the transfer scheme, consumer contribution and grants as on 01-04-2013 is nil as the accumulated value has been knocked off from the balance sheet on account of the adjustments made in the balance sheet while revaluation. However, additions to consumer contributions in 2013-14 and 2014-15 have only been considered for estimating the depreciation as shown below:

Parameter	**FY 2013-14**	**FY 2014-15**
Opening Consumer Contribution and Grants	0.00*	347.97
Additions	357.46	367.29
Closing Consumer Contribution and Grants	357.46	724.75

5.73 In order to arrive at the depreciation for 2014-15, KSEBL has estimated depreciation for 2013-14 and 2014-15 as shown below:

Table 5.32

Estimation of proposed Depreciation for 2013-14

Details of Assets	GFA as on 1st April 2001	Depreciation for old assets (more than 12 years old)		GFA as on 1st April 2013	Assets added in last 12 years	Depreciation for assets created in last 12 years		Total Depreciation
		Rates as per CERC - Tariff Regulation 2004	Amount			Rates as per CERC - Tariff Regulation 2014	Amount	
	(Rs. Cr)	(%)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(%)	(Rs. Cr)	(Rs. Cr)
Land & Rights	144.32	0.00%	0.00	348.54	204.22	0.00%	0.00	0.00
Buildings	270.66	1.80%	4.87	622.24	351.58	3.34%	11.74	16.61
Hydraulic Works	598.33	2.57%	15.38	1110.91	512.58	5.28%	27.06	42.44
Other Civil Works	69.17	1.80%	1.25	437.15	367.98	3.34%	12.29	13.54
Plant & Machinery	1315.67	3.60%	47.36	4478.45	3162.78	5.28%	166.99	214.36
Cable Network etc	1416.90	3.60%	51.01	5601.08	4184.18	5.28%	220.92	271.93
Vehicles	11.20	18.00%	2.02	16.63	5.43	9.50%	0.52	2.53
Furniture and Fixtures	8.38	6.00%	0.50	18.50	10.12	6.33%	0.64	1.14
Office Equipment	6.67	6.00%	0.40	59.36	52.69	6.33%	3.34	3.74
Grand Total	3841.30	3.20%	122.79	12692.86	8851.56	5.01%	443.51	566.29
Average Depreciation Rate (%)								**4.46%**
Consumer Contribution and Grants as on 1st April 2013								**0.00**
Depreciation on consumer contribution and grants								**0.00**
Net Depreciation for FY 2013-14								**566.29**

Table 5.33
Estimation of Depreciation for 2014-15

Details of Assets	GFA as on 1st April 2001	Depreciation for old assets (more than 12 years old)		GFA as on 1st April 2013	Assets added in last 12 years	Depreciation for assets created in last 12 years		Total Depreciation
		Rates as per CERC - Tariff Regulation 2004	Amount			Rates as per CERC - Tariff Regulation 2014	Amount	
	(Rs. Cr)	(%)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(%)	(Rs. Cr)	(Rs. Cr)
Land & Rights	150.80	0.00%	0.00	376.53	225.73	0.00%	0.00	0.00
Buildings	289.90	1.80%	5.22	672.22	382.32	3.34%	12.77	17.99
Hydraulic Works	617.23	2.57%	15.86	1200.13	582.90	5.28%	30.78	46.64
Other Civil Works	80.88	1.80%	1.46	472.26	391.38	3.34%	13.07	14.53
Plant & Machinery	2016.43	3.60%	72.59	4838.14	2821.71	5.28%	148.99	221.58
Cable Network etc	1606.07	3.60%	57.82	6050.94	4444.87	5.28%	234.69	292.51
Vehicles	11.21	18.00%	2.02	17.97	6.76	9.50%	0.64	2.66
Furniture and Fixtures	8.75	6.00%	0.53	19.99	11.24	6.33%	0.71	1.24
Office Equipment	7.18	6.00%	0.43	64.13	56.95	6.33%	3.60	4.04
Grand Total	4788.45	3.26%	155.92	13712.31	8923.86	4.99%	445.25	601.17
Average Depreciation Rate (%)								4.38%
Consumer Contribution and Grants as on 1st April 2014								357.46
Depreciation on consumer contribution and grants								15.67
Net Depreciation for FY 2014-15								585.50

Objections of Stakeholders

5.74 According to M/s.KDHPCL, the depreciation on consumer contribution should be allowed as the assets needs replacement once it is obsolete. The Thrissur Corporation also commented on the revaluation of asset and write off of consumer contributions. The HT-EHT Association stated that the depreciation rates as per CERC 2009 norms are not applicable to KSEBL as FOR has not issued any notification in this regard. Hence the applicable depreciation shall be as per 2004 norms. The Association also pointed out that KSEBL is not maintaining the accounts as per the CERC norms as directed by the Commission. The estimation of depreciation by KSEBL is also not as per the provisions of law. The Association further pointed out that depreciation on consumer contribution shall not be allowed. As per the estimates of the Association, the net depreciation allowable for 2014-15 shall only be Rs.265 crore.

5.75 Shri. Satheesh representing M/s Carborandum Universal stated that the depreciation on consumer contribution shall not be allowed. The A&G expenses shall be allowed based on inflation rate only. He also suggested that the cost of restructuring shall not imposed on the consumers.

Analysis and Decision of the Commission

5.76 KSEBL has claimed that the depreciation has been estimated based on the provisions of CERC regulations applicable for the period 2009-14 for the assets having the age less than 12 years. Further, the depreciation for assets created out of consumer contribution and grants has not been claimed for last two years. The Commission has examined the estimates given by the licensee in line with the provisions of CERC regulations. However, it can be seen that there are infirmities in the proposal of the licensee, KSEBL. As per the depreciation principles of CERC, accelerated depreciation is allowed for first 12 years of asset life for facilitating repayment obligation and the balance depreciation is spread over the rest of the *'useful life'*. The specific provision of depreciation as per the CERC(Terms and Conditions of Tariff) Regulations 2009 are given below:

17. Depreciation. *(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.*

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system:

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2009 from the gross depreciable value of the assets.

(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

5.77 Hence, as per the regulation, the balance depreciable value as on 1-4-2009 shall be worked out by deducting the cumulative depreciation upto 31-3-2009 from the GFA. For the balance assets, the norms have to be applied. Further, the assets which have residual value of 10% has to be deducted from GFA for estimation of depreciation. Hence the details given by the licensee are insufficient to apply strictly the depreciation as per the norms. It is grossly erroneous to apply depreciation rates applicable to the two tariff periods of 2004-09 and 2009-14 for the same assets and the CERC regulations are not envisaged to claim depreciation as proposed by the licensee. The Commission has been insisting for long that in order to claim the depreciation as per the CERC rates, the accounts have to be streamlined for the purpose. The licensee has been continuing with the practice of making adjustments in the asset accounts just to claim depreciation at higher rates, which is improper.

5.78 The licensee is of the view that the assets created out of consumer contribution and grants have been taken out of the books in the name of transfer scheme and revaluation. On the one hand, all the assets created out of contribution is retained in the books of accounts and depreciation is also claimed from it and on the other hand, the contribution for creating the assets (liability) has been removed from the books. It does in fact amount to converting the contribution to equity of KSEBL itself and naming it infusion of equity. The licensee might have done some accounting adjustments to clean up its balance sheet while restructuring the KSEB formed under the provisions of the Electricity Supply Act, 1948 in to a company under the Companies Act, 1956 as per the provisions of Electricity Act, 2003. In such accounting adjustments, the assets created out of contributions of consumers and grants from Government might have been knocked off. However, it is not proper to remove the contribution of grants and contribution of consumers from the regulatory accounts, since it is likely to entail in additional cost to the consumer. Hence, for the purpose of ARR, the contribution and assets created out of contribution will remain in the books and as per the principles evolved, depreciation claims will be adjusted account for the depreciation for assets created out of consumer contribution.

5.79 The Commission would like to reiterate that, as per the revised CERC norms, depreciation is linked to repayment period of loans/repayment obligations and the balance depreciation has to be spread over the useful life of the assets. In the order dated 17-4-2009 on ARR&ERC of KSEB for 2009-10, the Commission has ordered that:

> *"Since the estimation provided by the Board is not strictly in line with the revised norms, in the absence of any other better estimates, the Commission provisionally allows the estimates of Rs. 477.90 crore by the Board, on the condition that in the truing up, the Board has to update the accounts and provide depreciation calculated strictly in accordance with the revised norms. In its absence, the Commission would resort to earlier norms."*

5.80 The licensee has estimated depreciation based on vintage of assets claiming it to be as per the CERC norms. Instead of spreading the depreciation for the balance useful life (after the first 12 year period), the licensee is claiming depreciation as per the rates applicable to the period 2004-09 for the assets prior to 12 years. However, CERC norms clearly stipulate to separate the depreciation already claimed and to limit the depreciation for assets linking to repayment period, balance depreciable period and assets which have 10% of GFA as residual value. Such information has not been provided by the licensee. Hence, it is reiterated that as a basic step, list of assets with original book value, date of service and depreciation already claimed etc., are to be made available. In the absence of such information, the Commission relies on the depreciation estimated by KSEBL purely as an adhoc measure, without prejudice to modifying the allowed claim as per the norms, as part of truing up process. It is clarified further that the licensee will be eligible for accelerated depreciation as per the CERC norms only if its accounts reflect necessary information. In its absence, the licensee will not be eligible for such benefit. The practice of making adhoc estimations for claiming depreciation is to be discontinued. If the licensee needs to keep separate parallel accounts, the same has to be done for the purpose of regulatory claims.

5.81 The licensee has estimated Rs.601.17 crore as depreciation for the year 2014-15 for all assets including those created from contributions and grants. The total GFA as on 31-3-2014 is estimated at Rs.13712.31 crore. In the absence of details of assets based on vintage, the Commission is constrained to estimate the depreciation on an adhoc basis provisionally with available information. The contribution/grants for creation of assets as on 31-3-2013 given by the licensee in the previous petition is Rs.3893.61 crore. The addition for the year 2013-14 is Rs.357.46 crore. Accordingly, the depreciation for the purpose of ARR&ERC is estimated as shown below:

		Rs. crore	
1	GFA as on 1-4-2014	13712.31	
2	GFA as on 1-4-2002	4788.45	
3	Average rate of depreciation	3.26%	
4=(3X2)	Depreciation for the assets prior to 1-4-2002		155.92
5=(1-2)	GFA after 1-4-2002	8923.86	
6	Average rate of depreciation	4.99%	
7=(5x6)	Depreciation for the assets after 1-4-2002		445.25
8=(4+7)	Total Depreciation claimed		601.17
9=(8/1 *100)	Average rate of depreciation claimed	4.38%	
10	Contribution & Grants as on 1-4-2013 as per Tariff Order 2013-14	3893.61	
11	Consumer contribution 2013-14	357.46	
12	Total contribution & grants	4251.07	
13=(12*9)	Depreciation for assets created out of grants		186.37
14=(8-13)	**Allowable depreciation for 2014-15**		**414.80**

5.82 The depreciation allowable provisionally for the year 2014-15 is Rs.414.80 crore. The depreciation allowable at the time of truing up will be subject the fulfilment of conditions mentioned above and in its absence, eligible depreciation will be as per the rates of CERC regulations applicable for the period 2004-09 only.

Employee Cost

5.83 The employee cost projected for the year 2014-15 by KSEBL is Rs.2042.25 crore. The employee cost projected by the licensee is taking into consideration the transfer scheme and the separation of terminal liabilities and establishment of master fund for meeting the terminal liabilities. KSEBL stated that as per section 133(2), transfer of employees to KSEBL is to be done on such terms and conditions which are not less favourable to the employees than the existing once. According to KSEBL, it is the first ARR petition filed by KSEBL and hence it is appropriate for the Commission to consider the employee costs which KSEBL will incur due to obligations under section 132(2) of the Act. KSEBL has estimated the employee cost for the year 2014-15 based on the prevailing practices as detailed below:

(i) Basic salary as per the wage settlement agreement entered into between the KSEB and its trade unions.

(ii) Year to year increase in basic salary is taken as 4.30%, the average increment rate provided in the wage settlement agreement.

(iii) DA to KSEBL employees as and when the same is allowed by the State Government to its employees. The average DA rates of 83.71% and 103.81% are considered for FY 2013-14 and FY 2014-15. These DA rates have been arrived considering current DA rates notified and historical trends in increase in DA rates.

(iv) Other Expenses such as other allowances, bonus, LTA, EL encashment are projected considering average inflation of 10.85% for FY 2013-14.

(v) Provision created for pay revision, which is due from July/August-2013.

(vi) Annual Pension contribution to the Master Trust for 2013-14 has been taken assuming an annual contribution of 5.57% as per Actuary Report.

(vii) Employee cost capitalized has been estimated considering last three years average percentage of employee cost capitalized.

5.84 The total number of employees as on 31-3-2013 is reported to be 31783, compared to 31,113 as on 31-3-2012. The details of employee strength are as shown below:

Table 5.34

Details of employees in KSEBL

Sl.No.	Designation	Working as on 31-03-2012	Working as on 31-03-2013
1	C.E (Ele)	13	13
2	C.E (Civil)	3	3
3	Dy.CE (Ele)	57	64
4	Dy.CE (Civil)	12	12
5	E.E (Ele)	220	225
6	E.E (Civil)	51	49
7	A.E.E (Ele)	598	676
8	A.E.E (Civil)	162	164
9	A.E (Ele)	2084	2046
10	A.E (Civil)	212	216

Sl.No.	Designation	Working as on 31-03-2012	Working as on 31-03-2013
11	F.A	0	1
12	C.I.A	0	1
13	Sr.FO	1	1
14	F.O	17	18
15	A.F.O	14	15
16	D.A	30	33
17	R.P.O	1	1
18	Sr.AO / SO(R)	3	3
19	A.O & RAO	32	37
20	A.A.O	64	75
21	S.S	1084	1078
22	SFCS & FCS	3	3
23	CA & SCA	106	106
24	S.E (Ele)	2681	2646
25	S.E (Civil)	456	471
26	Overseer (Ele)	4766	5129
27	Overseer (Civil)	33	33
28	Meter Reader	818	843
29	Lineman	8375	8865
30	Electricity Worker	4083	3810
31	Senior Assistant	2512	2692
32	J.A/Cashier	1131	929
33	FCA	229	235
34	Office Attendant	431	474
35	Sweeper/Scavenger	18	18
36	System Supervisor	59	59
37	Skilled Technician	10	10
38	PTC	409	390
39	Driver	335	339
		31113	**31783**

5.85 The licensee has stated that at present, it has to provide HRA, project allowance etc., as per the provisions of wage agreement with trade unions of employees. The employees are also eligible for encashment of earned leave 30 days in a year and terminal surrender of 300 days. The actual EL encashment for 2012-13 was Rs.94.25 crore and provision for Rs.104.48 crore is made for 2013-14. The proposed provision on this account for 2014-15 is Rs.115.82 crore. As per the provision of second transfer scheme, the provision for funding the pension, leave and gratuity of employees currently on the pay roll is to be provided. This has to be estimated based on the actuarial valuation. For the year 2014-15 the amount is estimated at Rs.101.12 crore. The estimate of employee cost provided by the licensee is as shown below:

Table 5.35

Details of Salary and Benefits of Serving Employees Proposed by the KSEBL

Particulars	2012-13 (Actual)	2013-14 (Revised Estimate)	2014-15 (Projection)
	Rs. Cr	Rs. Cr	Rs. Cr
Salaries	739.38	771.17	804.33
Over Time/Holiday Wages	0.23	0.26	0.28
Dearness Allowance	450.68	645.56	834.94
Other Allowances	38.85	43.06	47.74
Bonus	6.63	7.35	8.14
Sub Total	1235.76	1467.39	1695.43
Medical Expenses Reimbursement	5.28	5.85	6.49
Leave Travel Assistance	0.00	0.00	0.00
Earned Leave Encashment	94.25	104.48	115.82
Payment under Workmen's Compensation Act	0.34	0.38	0.42
Leave Salary & Pension Contribution paid by the KSEBL to other Departments	0.39	0.44	0.48
Other Expenditure - Funeral Allowance	0.00	0.00	0.00
Staff Welfare Expenses	1.64	1.82	2.02
Sub Total	101.91	112.97	125.23
Terminal Benefits	765.35	900.00	0.00
Annual Contribution to Pension Fund	0.00	0.00	101.12
Provision made for Pay Revision July/Aug 2013	0.00	82.55	120.47
Grand Total	2103.03	2562.92	2042.25
Less: Employee Cost Capitalized	145.07	160.63	185.06
Net Employee Expenses	**1957.96**	**2402.28**	**1857.19**

5.86 The licensee in the petition has given several grounds in support of the claim on employee cost at actuals. According to the licensee, the Commission has disallowed the employee cost of about Rs.1993.38 crore from 2009-10 to 2013-14. These estimates are based on the estimated figures given in the petition and the amount approved by the Commission for these years. According to the licensee, the total amount disallowed on account of basic pay is Rs. 657.94 crore and disallowance of DA is Rs.693.98 crore. The disallowance on terminal benefits is Rs.393.06 crore. According to the licensee, it has the statutory and contractual obligation for payment of compensation for the employees. The licensee has given supporting details for justifying the employee costs. According to the licensee, there is considerable business growth since 2003-04.

Table 5.36
Growth of the Kerala Power System since the Inception of the Commission

Year	Consumer strength	Annual energy sale	No of S/s	EHT lines	HT Lines	LT lines	Dist. Transformers	No of section offices	Revenue from sale of Power
	(Lakhs)	(MU)	(Nos)	(Km)	(Km)	(Km)	(Nos)		(Rs. Cr)
2003-04	73	8910.84	216	9061	32578	204385	33940	556	2756.09
2004-05	78	9384.4	237	9322	33634	210458	35822	558	2917.36
2005-06	83	10906	254	9581	34596	217899	37573	603	3367.3
2006-07	87	11331	268	9770	36419	226128	39697	619	4009.71
2007-08	90	12050	288	9943	38235	234286	42260	640	4696.95
2008-09	94	12414	306	10130	41283	241849	46359	641	4893.02
2009-10	97	13971	335	10402	44682	249687	52149	641	4747.17
2010-11	101	14548	348	10500	48342	256449	57954	694	5198.52
2011-12	105	15981	358	10582	51328	260554	62329	697	5593.02
2012-13	108	16838	369	10706	52907	263620	64972	729	7223.39

5.87 In the Petition, the licensee has mentioned that over the years, there is an increase in number in consumers, substations, section offices, energy sales, HT-LT lines etc. Till 2008-09, employee cost was under control and due to increased business activity, the cost has increased thereafter. It was also submitted that energy sale has increased by 35.64%, consumer strength by 15.40%, and the assets such as number of substations, lines, distribution transformers, generation units etc., have also increased during this period. The cumulative inflation level from 2003-04 to 2012-13 is 75.79%. However, the increase in employee cost per unit over 2003-04 is only 56.8%. If the increase in per unit employee cost is in line with inflation, it should have been Rs.1.74 per unit in 2012-13, whereas it was only Rs.1.25 per unit in that year.

5.88 The licensee has submitted that increase in employee cost due to expected pay revision is about 14% of the pre-revised pay scale and, the same cannot be met through increase in productivity alone. It was further submitted that as a government utility, the licensee is not in a position to take drastic steps for reduction in the number of employees through retrenchment, outsourcing etc., Computerization is being done in all areas including billing and revenue collection, supply chain management, HRM, accounting etc. R-APDRP scheme is also under implementation and all of these measures will reduce additional manpower requirement in a phased manner.

Objections of the Stakeholders

5.89 The Standing Council of Trade Unions stated that O&M expenses should be allowed only based on CPI:WPI index basis. The ceiling rate for purchase of power shall not be increased over Rs.5 perunit. All Unions of employees and officers Union of Travancore Cochin Chemicals, Hindustan Paper Corporation employees Association, Kerala Newsprint employees union stated that the average employee expenses is much higher and cannot be loaded to consumers. The R&M expenses should be based on inflation basis. Power purchase should be Rs.5 per unit. After considering the changes there is no requirement of tariff revision.

5.91 The KSEB Officers Association stated that in the case of employee cost, the Commission is not adopting a reasonable stand, considering increase in number of consumers. The wage structure is high in Kerala and hence the same may reflect in the employee cost also. This is reflected in the figures of Planning Commission. The figures of State Planning Board is also supports such conclusions. The argument that whatever employee costs allowed by the KSEBL need not be reflected in the approved employee cost is also a unreasonable argument since for a regulated entity entire the expenses have to be through tariff and the productivity gain achieved by the Board is comparatively high and such facts needs to be taken into consideration in the ARR.

5.92 Shri. Radhakrishnan and representing the domestic consumers and Shri. Satheesh representing M/s Carborandum Universal stated that there is substantial cost escalation in financing and O&M charges to the tune of 65%. The employee cost of serving a unit has increased from 65 ps to 154 paise per unit in 6 years. According to them there should be a reasonable study to decide the right size of number of employees. Employee cost has increased 4.25 times from 2002-03 to 2014-15, where as the employee numbers have increased by 30%. Average monthly salary has increased by 4.5 times which is much higher than the inflation rate. In order to meet employee cost 33% of the revenue is required and the revenue from selling the hydro energy is not sufficient to meet the expenses or even the revenue from domestic consumers is not enough to meet the employee costs. The Commission in the ARR&ERC orders has clearly directed that the salary revision if any offered shall completely be funded through efficiency gains without any extra burden to the consumers and he requested that such burden shall not be passed on to the consumers.

5.93 The HT-EHT Association also commented on the projections of KSEBL on employee costs. There is no manpower study made by KSEBL. There is unabated recruitments in the organization even with directions to reduce the employee costs. The average monthly employee cost is estimated at Rs.69,452 compared to Rs.26,522 in 2003-04. By giving the comparison of employee costs in other States, the Association showed that the cost per unit sales is much less than in other States than in KSEBL. In the last seven years, the employee cost has increased 4.5 times, where as the productivity in terms of MU/employee has reduced, which is not a desirable trend. Cost of serving employee need to be link with performance indexes. In the case of unfunded liabilities, the Commission should follow the example of Andhra Pradesh, where APERC has directed to meet the expenses towards meeting the interest of bonds raised for the pension trusts from the return on equity, rather than the same being allowed as a separate expense.

5.94 According to the Association stated that the Commission should ensure that the KSEBL employees are working in a competitive environment for optimising the costs. The Association argued that employee cost should be allowed as per CPI:WPI method only and by considering the pension liabilities in the previous year, the total employee cost that can be allowed for 2014-15 will be Rs.1295 crore only.

Analysis and Decision of the Commission

5.95 The licensee has repeatedly stated in the petition that the Commission has disallowed the basic pay, DA, pension etc., from 2009-10 onwards. The Commission reiterates that in the process of approving ARR & ERC, the Commission does not allow or disallow the expenditure incurred by the licensee. The Commission is only conducting a prudence check of the expenditure and revenue of the licensee, with a view to ascertaining their reasonableness and usefulness for the purpose of determination of tariff payable by the consumers. It is a well known fact that the licensee has not so far recovered any payment made to its employees on the ground that the Commission has not approved such payments in its prudence check. Such statements made by the licensee would only help creating misunderstanding among its employees. The licensee has also shown figures in table 89 & 90 of the petition on disallowance of DA and terminal benefits. The estimates given in the petition are arbitrary numbers which are absent in the relevant orders. Hence, accuracy or inaccuracy of such estimations entirely rests upon the licensee. The licensee should desist from presenting such deduced figures which are not mentioned in the orders of the Commission. The Commission has been approving the employee costs based on the provisions in the regulation which are based on whole sale price index (WPI) and consumer price index (CPI). It is a fact that the employee costs of the licensee has been increasing over the years from 2008-09 without much control. Through several directions were given for controlling the employee cost and conducting the manpower studies for right sizing the employee strength, through process re-engineering, computerisation etc., the licensee has not taken any effective steps to address the issue. No attempts are seen made on cost control and optimising the cost. While the number of employees is increasing on the one hand, large number of temporary employees are being engaged for various operations of the licensee. Many of the R&M and routine capital works are seen outsourced. Hence it has to be concluded that the number of employees and the costs incurred thereon, as given in the petition are largely under reported. The licensee has not provided the details of number of employees working on temporary basis even after repeated queries, for the reason known only to the licensee. In the absence of sufficient supporting data to substantiate approval of higher employee cost, the Commission can approve employee cost only as per the norms specified in the relevant Regulations. The increase in number of employees as per the details given by the licensee is as shown below;

Table 5.37

Change in Number of Employees

Functional Unit	31-3-2009	31-3-2010	31-3-2011	31-3-2012
Generation	1516	1616	1737	1745
Transmission	2875	3021	3026	3314
Distribution	21690	22368	24123	24994
Corporate Office	1008	1038	999	1060
Total	**27089**	28043	**29885**	**31113**
Increase over previous period		*954*	*1842*	*1228*

5.96 While, the consumer strength increased by 12%, the number of employees increased by about 15%. Many stakeholders have repeatedly expressed their concern over the increase in employee cost. Though the issue has been addressing in all the ARR&ERC orders, no concrete efforts have been taken by the licensee to address the issue. On a per unit basis, employee expenses is about Rs.1.54 per unit and consumes about 33% of the revenue.

5.97 The above situation has forced the Commission to take steps to limit the impact on the consumers. The Commission has decided to benchmark the employee expenses based on CPI-WPI basis in the ARR&ERC order for 2011-12 taking the actual employee cost in 2008-09 as base, and the same approach is to be continued in this year also. However, as per the transfer scheme, the terminal liabilities have been separated and hence, employee costs in 2008-09 alone, separating the terminal liabilities, are taken for estimation.

As per the Government of India reports, the inflation based on CPI and WPI recorded in the past is as follows:

Table 5.38

Recorded CPI and WPI Indices Over the years

		Yearly		
Year	WPI	Increase	CPI	Increase
2004-05	100.0			
2005-06	104.5	4.44%		
2006-07	111.4	6.59%	125.00	
2007-08	116.6	4.74%	132.75	6.20%
2008-09	126.0	8.05%	144.83	9.10%
2009-10	130.8	3.81%	162.75	12.37%
2010-11	143.3	9.50%	179.75	10.45%
2011-12	156.1	8.99%	194.83	8.39%
2012-13	167.6	7.35%	215.17	10.44%
2013-14	177.5	5.90%	236.00	9.68%

5.98 Based on the above, the inflation recorded based on CPI is 9.68% and WPI is 5.90% for 2013-14. On 70:30 basis, the composite increase would be about 8.66%. Considering the prevailing trends in inflation, same percentage as that of 2013-14 is applied for the year 2014-15 for estimating the expenses. However, in the truing up process, the expenses will be allowed based on the actual inflation recorded based on CPI and WPI in 2014-15.

5.99 The licensee is seen to have given provision for encashment of earned leave at a rate of 30 days per annum and for terminal leave surrender for 300 days. If an employee enters service at the age of 25 and retires at the age of 55, his maximum service would only be for a period of 30 years. If the employee has to surrender 300 days of earned leave at the end of his service period, he has to accumulate earned leave at an average rate of 10 days earned leave per annum. In such case the employee will not have 30 days of earned leave to encash every year. If the above assessment has to be true, the employee shall not avail any earned leave during the entire service period. The licensee has to clarify such issues and make appropriate adjustments in its claims for employee cost.

5.100 As mentioned above, in the previous year, the Commission used the financial year 2008-09 as a base year, in which all the actual employee costs including the impact of wage revisions so far implemented by the licensee were approved by the Commission in the truing up. As in the case of previous years, the Commission provides 3% increase in basic pay for accounting for increments. The other components are benchmarked based on the 70:30 index (CPI:WPI) for estimating the increase in employee cost. Since the pension liabilities are separately accounted through Master Fund, the employee cost has to be estimated separately excluding the pension liabilities. Hence employee cost excluding pension liabilities in the base year is taken as follows:

Sl No	**Particulars**	**2008-09 (Rs. crore)**		
		ARR Order	Actuals	Truing up
1	Salaries	497.12	429.81	429.81
2	DA	159.08	235.42	235.42
3	Overtime, other allowances, Bonus.	28.65	31.59	31.59
4	Earned Leave encashment	36.2	57.58	57.58
5	Medical expenses reimbursement, staff Welfare expenses, payment under works men compensation,	4.21	4.97	4.97
6	Terminal benefits (including terminal Surrender)	411.6	495.82	495.82
7.	**Grand total**	**1,136.86**	**1,255.19**	**1,255.19**
8.=(7-6)	**Net employee costs (less terminal benefits)**			**759.37**

The net employee cost in 2008-09 is Rs.759.37 crore. Accordingly, the allowable employee cost for 2014-15 is estimated as follows:

Table 5.39

Approved Estimate of Employee Cost for 2014-15 (Rs.crore)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Basic Pay Projection	378.7	390.06	401.76	413.82	426.23	439.02	452.19
Other components							
CPI component (70%)	266.469	299.43	330.72	358.47	395.88	434.21	476.25
WPI Component (30%)	114.20	118.55	129.81	141.48	151.89	160.85	170.35
Total	**759.37**	**808.04**	**862.30**	**913.77**	**974.00**	**1,034.08**	**1,098.79**

Note:*The figures arrived at for the intermediate years (2009-10, 2010-11, 2011-12, 2012-13) are relevant only for estimation purpose, and cannot be construed as approved figures. Approved figures for these years will be as per the respective ARR&ERC Orders.*

5.101 Based on the above formula, the employee cost for 2014-15 is Rs.1098.79 crore. The licensee has estimated that the annual contribution to the pension fund for the year 2014-15 as per the actuarial valuation at Rs.101.12 crore. The licensee has included Rs.120.47 crore towards provision for pay revision due from July/August 2013 in the employee cost, which works out to about 6% of the total employee cost estimated by them. In the past Commission has not allowed such provisions. However, this being the first ARR after restructuring of the erstwhile Board and considering the need to recognise the statutory right of the transferred employees for entitlement of the existing benefit, the Commission recognises the provisions for pay revision subject to the condition that in future the responsibility of recommendations for pay revision is entrusted to Independent Committee. The terms of reference for such pay revision panels should include recommendations for prescribing measurable productivity guidelines for all cadres, gainful re-deployment of surplus staff, impact of computerization on the work norms etc. The recommendations of the Pay Revision Committee on these issues should also be included in the long term settlement. Considering this, a provision of Rs.72 crore is allowed for the year 2014-15 which is 6% o the employee costs approved by the Commission. Thus the total employee cost allowed for the year 2014-15 is Rs.1271.91 crore. The licensee shall transfer the estimated contribution to the pension fund promptly every year in 12 equal monthly installments. Possibility of taking up outside civil contracts by the civil branch prescribing revised work norms and in the light of computerization of various activities are to be immediately looked into. The licensee shall endeavor to control the employee expenses to bring it to the approved level. The expenditure over the approved level shall not be passed on to the consumers through tariff. In the truing up process for the year, the allowable employee costs will be refixed based on the actual CPI-WPI for the year 2014-15.

5.102 The Commission in the ARR&ERC order for 2012-13, had reiterated the comments made in the previous years for taking radical internal reform measures to control the costs. The same is given below:

"The Board has to sincerely venture in for radical internal reforms to control the costs. The reform measures are not aiming at retrenchment or reducing the existing benefits allowed to the employees but to aim at measures especially at the HR level that include redesigning the tasks, re-training, re-tooling, process re-engineering, infusion of proper IT and technology, intervention aiming at improving the efficiency and productivity of employees."

5.103 Thought the above comments have been made repeatedly over the years, the licensee has not taken it seriously or taken any internal reform measures to address comprehensively the rising O&M expenses. Unless such earnest efforts are taken consumers will not have any reprieve from rate increase.

A&G Expenses

5.104 Administration and General expenses (excluding Electricity Duty) projected by KSEBL for 2014-15 is Rs.132.29 crore against Rs.105.46 crore for 2012-13 (actual). The Section 3(1) duty is estimated at Rs.108.36 crore. The licensee has stated that the estimation of A&G expenses is made based on past actual, business growth and inflation. According to the licensee, the Commission has not accounted the increase in A&G expenses due to business growth. The growth of A&G expenses form 2008-09 to 2014-15 is given below:

Table 5.40

A&G expenses over the years

Sl No	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
		Actual	Actual	Actual	Actual	Provisi-onal	Revised	Total
		(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
1	Rent, Rates and Taxes	3.89	4.30	4.30	5.56	5.23	5.86	6.57
2	Insurance	0.50	0.40	0.38	0.41	0.38	0.42	0.47
3	Telephone/telex/internet charges	3.94	3.74	3.46	3.46	3.47	3.88	4.34
4	Legal charges	1.75	2.80	3.24	2.00	1.54	1.72	1.93
5	Audit fees	2.25	2.30	2.30	2.30	2.30	2.58	2.89
6	Consultancy charges & technical fee	0.46	0.62	0.57	0.40	0.32	0.36	0.40
7	Other Professional charges	0.11	0.24	0.26	4.04	4.23	4.74	5.31
8	Conveyance and vehicle hire charges	13.44	17.11	23.99	34.08	35.46	39.71	44.48

9	Sub Total (Total of 1 to 8)	**26.34**	**31.51**	**38.50**	**52.25**	**52.93**	59.27	66.38
10	OTHER EXPENSES							
	a) Fees and subscriptions	0.25	0.56	0.53	0.47	0.53	0.65	0.72
	b) Printing & Stationary, books periodicals	7.11	8.50	7.37	9.01	7.73	8.75	9.80
	c) Advertisements	3.30	6.40	7.50	8.09	0.90	1.13	1.27
	d) Data processing charges	0.13	0.28	0.28	0.18	0.13		
	e) Exhibition & publicity	0.05	0.08	0.19	0.22	0.10		
	f) Contributions/Donations	0.33	0.54	1.09	1.16	1.16	1.30	1.46
	g) Electricity Charges	3.45	4.91	5.26	5.12	5.13	5.75	6.44
	h) Water charges	0.27	0.23	0.28	0.24	0.16	0.18	0.20
	i) Entertainment	0.13	0.22	0.27	0.29	0.27	0.31	0.34
	j)Sports and related activity	0.12	0.21	0.26	0.28	0.39		
	k)Study tour/Training	0.84	1.87	1.58	0.71	0.22	0.25	0.28
	l)SRPC expenses	0.31	0.74	0.84	0.72	0.57	14.97	16.76
	m)DSM expenses	-	3.86	0.92	0.96	0.22	0.25	0.28
	n)APTS expenses	0.01	0.02	0.02	0.01	0.01	0.63	0.71
	o) Operational expenses	-	-	-	-	9.61	0.43	0.49
	p) Miscellaneous expenses	7.25	8.74	10.67	13.77	13.36	10.76	12.05
	Total of OTHER EXPENSES	**23.55**	**37.16**	**37.06**	**41.23**	**40.49**	**45.36**	**50.80**
11	Freight	6.98	14.61	11.27	9.33	6.94	7.77	8.70
12	Other expenses related to purchase	4.12	2.89	3.31	6.60	5.10	5.72	6.40
13	**Total (9+10+11+12)**	**60.99**	**86.17**	**90.14**	**109.41**	**105.46**	**118.11**	**132.29**
	Electricity Duty u/s 3(1), KED Act	74.47	80.79	84.42	93.31	96.97	101.09	108.36
	GRAND TOTAL	**135.46**	**166.96**	**174.56**	**202.72**	**202.43**	**219.21**	**240.65**

5.105 According to the increase in cost is linked not just to inflation but also to business growth and number of consumers. The actual A&G expenses increased by an average of 14.67%, whereas the energy sale has increased by 7 to 8% and average inflation is about 10.43%. Based on this, KSEBL estimates growth of 12% for A&G expenses for the year 2014-15. The A&G expenses for 2014-15 is estimated at Rs.240.65 crore including electricity duty and Rs.132.29 crore excluding electricity duty.

Objections of Stakeholders

5.106 M/s. KDHPCL stated that the duty under Section 3(1) of the electricity duty Act should also be included the ARR exercise. The HT-EHT Association and Shri. Satheesh representing M/s Carborandum Universal stated that other O&M costs should allowed based on inflation.

Analysis and Decision of the Commission

5.107 As pointed out in earlier orders, the A&G expense is a controllable item and hence escalation over the inflation rate is not necessary for this item. The A&G expense excluding electricity duty in 2007-08 was only Rs.47.81 crore. In its place, the expenses projected for 2014-15 is proposed at Rs.132.29 crore, ie., an increase of about three times in six years. It can be seen that the composite rate of inflation based on WPI:CPI on 30%:70% is always more than 8% in the last few years. Increase in A&G expenses over 8% is not reasonable level at all, even considering the growth of consumers (average growth less than 4%) and energy sales (less than 8%). As shown below the increase in A&G expenses is much more than the many parameters such as business growth as pointed out by the licensee. As in the case of other items of O&M expenses, the licensee has not shown any signs of restraint, the Commission has no choice but to continue with the methodology adopted in the previous years for approving the A&G expenses for 2014-15.

Table 5.41

Growth of A&G expenses in relation to other parameters

Year	Consumer strength		Annual energy sale		Revenue from sale of Power		A&G expenses	
	(Lakhs)	Cumulative (%) of increase over 2008-09	(MU)	Cumulative (%) of increase over 2008-09	(Rs. Cr)	Cumulative (%) of increase over 2008-09	(Rs. Cr)	Cumulative (%) of increase over 2008-09
2008-09	94		12,414		4893.02		60.99	
2009-10	97	3.2%	13,971	12.5%	4747.17	-3.0%	86.17	41.3%
2010-11	101	7.4%	14,548	17.2%	5641.26	15.3%	90.14	47.8%
2011-12	105	11.7%	15,922	28.3%	5984.6	22.3%	109.41	79.4%
2012-13	108	14.9%	16,386	32.0%	6097.24	24.6%	105.46	72.9%

5.108 Accordingly, the methodology based on CPI:WPI index for allowing the A&G expenses is used for approving the A&G expenses for 2014-15 The A&G expenses based on the CPI:WPI will be thus worked out as follows:

Table 5.42

Approved A&G Expenses for 2014-15

	Actual	Estimation					
	2008-09	2009-10	2010-11	*2011-12*	*2012-13*	2013-14	2014-15
	Rs. crore	Rs.crore	Rs.crore	*Rs.crore*	*Rs.crore*	*Rs.crore*	*Rs.crore*
CPI weightage (70%)	42.69	47.97	52.98	57.43	63.42	69.56	76.30
WPI weightage (30%)	18.30	19.00	20.80	22.67	24.34	25.78	27.30
Total A&G Expenses	***60.99***	***66.97***	***73.78***	***80.10***	***87.76***	***95.34***	***103.60***
Yearly increase		9.80%	10.18%	8.56%	9.56%	8.63%	8.66%

Note : The figure arrived at for the intermediate years (2009-10, 2010-11, 2011-12, 2012-13 & 2013-14) are relevant only for estimation purpose, and cannot be construed as approved figures. Approved figures for these years will be as per the respective ARR&ERC Orders

5.109 Hence, the A&G expenses to be allowed is Rs.103.60 crore for 2014-15. As per the order of the APTEL, Electricity Duty under Section 3(1) is not included in A&G expenses. Hence the same is not considered. In **the truing up process, the expenses will be allowed based on the actual inflation recorded based on CPI and WPI in 2014-15.**

Repair and Maintenance Expenses:

5.110 The licensee proposed R&M expenses for the year 2014-15 at Rs.315.54 crore which is 25% more than the actual R&M expenses for 2012-13. According to the licensee, the increase in R&M expenses is limited to 12% on the actual of the previous year. The licensee had proposed the R&M expenses for 2013-14 at Rs. 304.56 crore, which has been now revised at Rs.281.73 crore. As a percentage of GFA, the actual R&M expenses for 2012-13 is 2.14% of GFA and the proposed amount for 2014-15 is 2.37%, where as the revised estimates for 2013-14 is 2.28%. Hence, benchmarked against the GFA each year, the R&M expenses have been increasing disproportionately over the years as shown below:

Table 5.43
R&M as percentage of Gross Fixed Asset

Details of Assets	2011-12			2012-13			2013-14			2014-15		
	GFA at the beginning of the year	R&M expenses	%	GFA at the beginning of the year	R&M expense	%	GFA at the beginning of the year	R&M expenses	%	GFA at the beginning of the year*	R&M expenses	%
	(Rs. Cr)	(Rs.Cr)		(Rs. Cr)	**(Rs.Cr)**		(Rs. Cr)	(Rs.Cr)		**(Rs. Cr)**	**(Rs.Cr)**	
Buildings	555.73	5.77		608.63	5.40		622.24	6.04		672.22	6.77	
Hydraulic Works	1,073.24	2.12		1,102.10	3.64		1,110.91	4.08		1,200.13	4.57	
Other Civil Works	391.41	6.67		422.29	6.61		437.15	7.40		472.26	8.29	
Plant and Machinery	4,058.70	63.81	1.57%	4,338.54	67.41	1.55%	4,478.45	75.50	1.69%	4,838.14	84.56	1.75%
Lines, Cable Network etc.	4,720.60	168.05	3.56%	5,185.31	163.91	3.16%	5,601.08	183.59	3.28%	6,050.94	205.62	3.40%
Vehicles	14.56	4.12		16.06	3.30		16.63	3.70		17.97	4.14	
Furniture and Fixtures	16.05	0.10		17.11	0.08		18.50	0.09		19.99	0.10	
Office Equipments	47.86	1.06		51.60	1.20		59.36	1.34		64.13	1.50	
Total	10,878.15	251.70	2.31%	11,741.64	251.55	2.14%	12,344.32	281.73	2.28%	13,335.78	315.54	2.37%

5.111 According to the licensee, the GFA in distribution has shown higher increase over the other functions as shown below:

Table 5.44
Function Wise Gross Fixed Assets as per Accounts

Functional area	As on 31-03-2009	As on 31-03-2010	As on 31-03-2011	As on 31.03.2012	As on 31.03.2013*	Overall increase	% of increase over 31-03-2009
	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(%)
Generation	3,132.03	3,401.75	3,695.14	3,806.87	3,633.02	500.99	16.00
Transmission	3,029.03	3,253.94	3,441.44	3,735.89	3,866.06	837.03	27.63
Distribution	3,088.04	3,529.34	4,067.19	4,530.86	5,193.78	2,105.74	68.19
Total	9,249.11	10,185.03	11,203.77	12,073.62	12,692.86	3,443.75	37.23

*without revaluation

5.112 The licensee further claimed that value of assets cannot be taken as the yardstick for age of assets. According to KSEBL the R&M expenses is highly influenced by inflation. The inflation during the period is about 10.43%. It is also stated that the R&M expenses in 2012-13 was reduced mainly on account of postponement of some of the routine R&M. However, no supporting details were given for such arguments. The annual average increase in R&M expenses is about 16.03%. The licensee projected a nominal increase in R&M expenses at the rate of 12%, (more than the inflation rate) for 2014-15.

Analysis and Decision of the Commission

5.113 In the submissions and the data presented, it is clear that the arguments of the KSEBL for increase in R&M expenses are not on sound footing. The licensee claims that maintenance of lines and cables are main activities and hence increase in R&M expenses is necessary. KSEBL also claims that R&M expenses are related to inflation and GFA. However, the actual R&M expenses are always higher than the growth of GFA and inflation. It is noticed that labour cost for outsourced operational functions are at present charged under the R&M head. Even after repeatedly seeking the information on employees engaged on temporary/HR basis and the information has been withheld or partially provided. Hence it is not ascertainable that the R&M expenses incurred is genuine or part of operations. The R&M expenses as percentage of GFA has been increasing over the years, also confirms this. The Commission has earlier pointed out that capital nature of expenses are booked under R&M (eg. Conversion of lines etc.), which artificially boosted up the R&M expenses in the past. During the period 2005-06 the Commission directed the licensee to prepare and furnish a need based R&M plan for properly estimating the R&M expenses which was never complied to. In these circumstances, the Commission has no choice but to adopt the methodology as in the previous years where, it was decided that the O&M expenses are to be allowed based on the WPI:CPI indexation as per the provisions of the regulations. In this context it is pertinent to note that the KSEBL has claimed that R&M expenses are highly susceptible to inflation, supporting the views taken by the Commission. Thus based on the CPI:WPI index, the allowable R&M expenses for the year 2014-15 is estimated as follows:

Table 5.45

Approved R&M Expenses for 2014-15

R&M Expenses	Actual	Estimation					
	2008-09	2009-10	2010-11	*2011-12*	*2012-13*	2013-14	2014-15
	Rs. crore	Rs.crore	Rs.crore	*Rs.crore*	*Rs.crore*	*Rs.crore*	*Rs.crore*
CPI weightage (70%)	97.15	109.17	120.57	130.69	144.33	158.30	173.63
WPI weightage (30%)	41.64	43.23	47.33	51.59	55.39	58.65	62.12
Total R&M Expenses	**138.79**	**152.39**	**167.91**	**182.28**	**199.71**	**216.96**	**235.75**
Yearly increase		*9.80%*	*10.18%*	*8.56%*	*9.56%*	*8.63%*	*8.66%*

Note : The figure arrived at for the intermediate years (2009-10, 2010-11, 2011-12, 2012-13 & 2013-14) are relevant only for estimation purpose, and cannot be construed as approved figures. Approved figures for these years will be as per the respective ARR&ERC Orders

5.114 The average escalation rate based on 70:30 basis on CPI and WPI, the composite increase would be about 8.66% and the allowable R&M expenses for the year 2014-15 will be Rs.235.75 crore. The R&M expenses will be reassessed based on actual CPI&WPI during the truing up process for the year 2014-15. .

Other Expenses

5.115 Other expenses include net prior period charges/income and other debits. No claim is made by the licensee on prior period charges. The other debits comprises of research and development expenses, provision for bad debts, miscellaneous write offs, material cost variance etc,. The estimates under this head projected by the licensee are as follows:

Table 5.46
Other Expenses Proposed by KSEBL for 2014-15

Particulars	2011-12 (Actual) (Rs. Cr)	2012-13 (Actual) (Rs. Cr)	2013-14 (Estimate) (Rs. Cr)	2014-15 (Estimate) (Rs. Cr)
Research and Development Expenses	0.52	0.74	1.00	1.50
Provision for Bad and Doubtful debts	1.92	227.02	21.16	21.68
Miscellaneous Losses and write-offs	8.84	3.77	4.00	4.50
Total	11.28	231.53	26.16	27.68

5.116 The HT-EHT Association suggested to reject the claim of other expenses as the main item is provision for bad debts write off which need not be allowed at this stage.

5.117 The licensee proposed Rs.21.68 crore as the provision for bad debts for the year 2014-15. However no explanation has been given for the write off. Since as part of the cleaning up balance sheet and second transfer scheme, all doubtful liabilities/assets have been cleared. Hence, there may not be requirements for large write off. Hence the Commission allows provisionally a nominal amount of Rs.5 crore for 2014-15. The actual write off after the prudence check, will be allowed during the truing up process.

Table 5.47
Other Expenses approved for 2014-15

<table>
<tr><th rowspan="2">Particulars</th><th>2011-12 (Actual)</th><th>2012-13 (Actual)</th><th>2013-14 (Estimate)</th><th>2014-15 (Estimate)</th><th>2014-15 (Estimate)</th></tr>
<tr><th>(Rs. Cr)</th><th>(Rs. Cr)</th><th>(Rs. Cr)</th><th>(Rs. Cr)</th><th>(Rs. Cr)</th></tr>
<tr><td>Research and Development Expenses</td><td>0.52</td><td>0.74</td><td>1.00</td><td>1.50</td><td>1.50</td></tr>
<tr><td>Provision for Bad and Doubtful debts</td><td>1.92</td><td>227.02</td><td>21.16</td><td>21.68</td><td rowspan="2">5.00</td></tr>
<tr><td>Miscellaneous Losses and write-offs</td><td>8.84</td><td>3.77</td><td>4.00</td><td>4.50</td></tr>
<tr><td>Total</td><td>11.28</td><td>231.53</td><td>26.16</td><td>27.68</td><td>6.50</td></tr>
</table>

Return on Equity

5.118 The KSEBL proposed the equity as Rs.3499 crore after the revaluation of assets and corresponding adjustments made in the balancesheet. The equity originally in the balance sheet was Rs.1553 crore. The licensee has claimed return on equity at 15.5% as per the CERC norms. The licensee has also claimed that other State Commissions such as PSERC, GERC, WBERC, MERC and MPERC while approving the tariff orders have considered the equity base allocated to the successor companies through transfer scheme for the purpose of estimation of return on equity. It was also mentioned that as per section 131(3), the transfer scheme and the transactions as per the scheme is binding on all persons including third parties. The licensee has also mentioned that the return on the additional equity is being availed for repayment of bonds issued for master trust for funding terminal liabilities. Thus RoE at a rate of 15.5% is claimed on the equity base of Rs.3499 crore for 2014-15, which is Rs.542.35 crore.

Objections of Stakeholders

5.119 According to the HT-EHT Association, since the equity as per the records of registrar of companies, is only Rs.5 lakhs the eligible return on equity for KSEBL will be Rs. 70,000/-

Analysis and Decision of the Commission

5.120 The Commission has been maintaining a policy that legitimate return should be allowed to the entities to function in a financially viable manner. Though the licensee has claimed that increase in equity is infusion of capital, in fact it is only accounting entry adjustments to match the increase in assets due to revaluation and to facilitate the repayment of bonds to be issued for funding terminal liabilities. Hence, the equity additionally claimed does not materially enhance any benefits to the consumers, but the Commission as a matter of principle approves the second transfer scheme and hence the enhancement of equity announced by the Government is recognised.

5.121 Regarding return on equity, the Commission has been allowing return at the rate of 14% considering the fact that as per KSERC (Terms and Conditions of Tariff for Retail Sale of Electricity) Regulations, 2006, the Commission may decide the return on equity considering the need to promote investments, whereas as per KSERC (Terms and Conditions for Determination of Tariff for Distribution and Retail Sale of Electricity under MYT Framework) Regulations, 2006 the return on equity shall be 14%. Hence, the Commission would allow Rs.489.86 crore as return at the rate of 14% on the equity capital of Rs.3499 crore. The return allowed for 2014-15 is Rs.272.44 crore higher than that is allowed for 2013-14.

Expenses and Interest Capitalized

5.122 The licensee has provided Rs.141.64 crore towards interest and financing charges capitalized and Rs.192.46 crore towards expenses capitalized. However, the licensee has not provided in the petition, any details on the estimation of expenses for capitalisation. In the absence of such information, the Commission provisionally allows these items in the ARR for 2014-15 as proposed by the licensee pending clarification on capitalization of expenses of establishment expenditure in construction cum O&M activities.

Impact of APTEL Orders

5.123 The APTEL in its order on 25-10-2013 in appeal No.10 of 2013 revised the tariff of HT IV consumers and had ordered the licensee to refund the excess amount collected to the concerned HTIV consumers, and allowed to recover the amount as expenses with carrying cost in the ARR order for 2014-15. In this connection KSEBL, considering the actual sales to HT IV consumers had estimated that Rs.47.34 crore as the excess collected during July to April 2013. Similarly, KSEBL has claimed Rs.35 crore on account of the order dated 3-7-2013 in Appeal No. 128 of 2012 on the refund of service connection charges. The service connection charges collected from HT-EHT consumers for the period from 02-03-2005 to 7-9-2010 is Rs.22.23 crore and including the interest amount it will be Rs.35 crore. The Commission has considered the request of the KSEBL. In the case of HTIV category of consumers, the relevant portion of the Order is as given below:

> *"19. In view of above, we set aside the tariff determined by the State Commission for HT IV Commercial category and decide that they should be charged at the tariff as proposed by the Electricity Board in their proposal i.e. demand charges of Rs. 400 per kVA per month and energy charge of 550 paise per kWh for all units consumed. The Electricity Board will refund the excess amount charged from all the consumers of HT IV Commercial Category in their bills from the month of November, 2013 to April, 2014 in equal instalments. In case of delay in reimbursement of excess amount by the Respondent no.2 to the consumers of HT IV Category, the consumers will be entitled to interest @ 1% per month for the unpaid amount. The total amount refunded by the Electricity Board to HT IV Commercial Consumers will be allowed as expenses with carrying cost in the ARR of the Electricity Board for FY 2014-15 to be recovered in the retail supply tariff during the FY 2014-15."*

5.124 Thus, the APTEL has ordered that refund shall be in the bills from the month of November 2013 to April 2014 in equal instalments. The total amount of refund is eligible to be included in the ARR of 2014-15 and to be recovered in 2014-15. It was also provided that the consumers are eligible for interest @1% per month for the unpaid amount. It is clear from the above order that KSEBL has to refund the amount by April 2014. The licensee has not clarified that the amount has been refunded or not and also the exact amount required to be refunded is also not given in the petition. Since the APTEL has directed to include the amount in the ARR of 2014, the estimates given by the KSEBL is considered as pass through. Accordingly it is directed that as soon as the refund is complete as directed by the APTEL, KSEBL shall report to the Commission, the total amount refunded to the consumers. However, the interest on account of delay solely attributable to the licensee will not be eligible for pass through in the truing up.

5.125 In the case of the second order (Appeal No. 128/2013), the APTEL had ordered to refund the service connection charges collected by KSEB to the consumers. The APTEL has ordered as :

> *"Accordingly, the Kerala State Electricity Board shall refund the service connection charges unauthorisedly collected by them from the High Tension and Extra High Tension electricity consumers alongwith simple interest @ 10% per annum from the date of collection of the charges till the date of refund."*

5.126 It was also mentioned that "*The refund which is ordered now could be included as an expenditure in the ARR of the Electricity Board for the year in which the disbursement takes place and passed on to the consumer in the tariff for the subsequent period*". The KSEBL has estimated the amount as Rs.35.00 crore including the interest. In this case also the KSEBL has not given the details of the amount actually to be refunded and also whether the amount has been refunded or not. In this case also it is clarified that the KSEBL will not be eligible for recovery of interest charges for the delay in disbursing the refund amount. Hence, the licensee within one month of the date of this order shall report to the Commission the amount actually due to be refunded and the carrying cost @10% as ordered by the APTEL and the actual disbursement details. The exact amount of refund excluding the interest on account of delay in disbursement alone will be passed on to the consumers in the truing up process. Thus, the amount proposed by the licensee is allowed provisionally for including in the ARR for 2014-15, which will be considered in the truing up as per principle set out above only.

Aggregate Revenue Requirements

5.128 The summary of Aggregate Revenue Requirements projected by the licensee and approved by the Commission for 2014-15 is as follows:

Table 5.48

Approved Aggregate Revenue Requirements for 2014-15

Particulars	*2013-14*	***2014-15***	
	Approved	*Projected in the ARR*	*Approved*
	(Rs.Cr)	*(Rs.Cr)*	*(Rs.Cr)*
Generation of Power	207.77	285.91	276.15
Purchase of power	6,380.74	6,575.40	6,205.29
Interest & Finance Charges	465.37	1,695.10	1,469.11
Depreciation	371.45	585.50	414.80
Employee Cost	1,803.81	2,042.25	**1,269.91**
Repair & Maintenance	216.11	315.54	235.75
A&G expenses	94.97	240.65	103.60
Other Expenses	19.50	27.68	6.50
Gross Expenditure (A)	**9,559.72**	**11,767.03**	**9,981.09**
Less : Interest Capitalized	62.71	141.64	141.64
Less : Expenses Capitalized	168.24	192.46	192.46
Net Expenditure (B)	**9,328.77**	**11,432.93**	9,646.99
Statutory Surplus/ RoE (**C)**	217.42	542.35	489.86
Impact of APTEL orders(D)		82.34	82.34
ARR (D) = (B) + (C) +(D)	**9,546.19**	**12,057.62**	**10,219.19**

CHAPTER – 6

TARIFF AND NON-TARIFF REVENUE

Introduction

6.1 The KSEBL has estimated the revenue for the year 2014-15 based on the current tariffs at Rs.8673.11 crore The estimated sales for 2014-15 and revenue projected is as shown below:

Table 6.1

Anticipated Energy Sale for the year 2014-15 by KSEBL

Sl No	Category	Sales (in MU)	Revenue (2014-15) (Rs in Cr)	Average Tariff (Rs./kWh)
I	**LT category**			
1	LT I(a)Domestic	9331.38	2,825.21	3.03
2	LT II Colony	16.4	13.19	8.04
3	LT-IV	1166.57	630.51	5.40
4	LT-V Agriculture	318.92	57.93	1.82
5	LT VI Non Domestic	639.63	483.76	7.56
6	LT VII Commercial	1796.36	1,522.47	8.48
7	LT VIII General	72.13	65.19	9.04
8	LT IX Public Lighting	333.17	108.28	3.25
	Sub total LT	13674.56	5706.52	4.17
II	**HT &EHT**			
1	HT-I Industrial	1776.82	993.56	5.59
2	HT-II	129.85	83.42	6.42
3	HT-III Agriculture	8.71	3.86	4.43
4	HT-IV	622.28	567.95	9.13
5	HT-V	272.55	233.98	8.58
6	**HT Total**	**2810.21**	**1882.77**	6.70
7	EHT-I	334	181.79	5.44
8	EHT-II	778	392.92	5.05
9	EHT-III	90.18	51.25	5.68
10	EHT Non Industrial	68.11	56.83	8.34
11	EHT Total	1270.29	682.79	5.38
	HT & EHT Total	**4080.5**	**2565.56**	6.29
12	Railway Traction	209.26	110.84	5.30
III	Bulk supply	527.12	290.19	5.51
	HT &EHT &Bulk supply Total	**4816.88**	**2966.58**	6.16
	NPG	3	-	
	Grand Total	**18494.44**	**8673.11**	4.69

6.2 The non-tariff income projected by the KSEBL for 2014-15 is Rs.453.30 crore. It includes meter rent, miscellaneous charges, rebate , interest from banks etc. The meter rent is estimated at Rs.175 crore. The consumer strength as on 1-4-2013 was 108.07 lakh. The increase in number of consumers expected in 2014-15 is 4.00 lakhs. Accordingly, the revenue from meter rent was projected as Rs.175 crore.

6.3 Miscellaneous Charges include charges such as testing fee, minimum guarantee charge, recovery in the theft cases, meter box charges, power allocation charges etc. The projection for 2013-14 and 2014-15 is Rs.60 crore. Rebate is the incentive receivable by the KSEBL for arranging timely payment of power purchase and transmission cost etc to CPSUs. This also includes rebate for prompt repayment of principal amount due to PFC/REC etc. It is estimated that the rebate received in 2013-14 is reported as Rs.75 lakhs and for 2014-15 is projected as Rs.60 crore as there may be financial crunch and the licensee is expected to avail maximum credit limit of 60 days for making payment to CPSUs. The licensee, has proposed interest income from banks for the year 2014-15 at Rs.60 crore. The income from sale of scrap is expected at Rs.31 crore for 2014-15.

6.4 Miscellaneous receipts include items like rental for staff quarters, rental from contractors and others, excess found on physical verification of cash, stock and fixed assets, security deposit forfeited, receipts from sale of trees, usufructs etc Rs.65 crore is expected under this head. Hence the total non-tariff income expected for the year 2014-15 is Rs.453.30 crore as shown below:

Table 6.3

Non-Tariff Income Projected by KSEBL for 2014-15 (Rs.crore)

Sl No	Particulars	2011-12	2012-13	2013-14			2014-15
		Actual	Actual	ARR	KSERC	Revised	Total
		(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)
1	Meter Rent /Service Line Rental	158.14	163.34	167.50	167.50	170.00	175.00
2	Miscellaneous Charges. Reasonable cost for providing supply, Testing fee, Reconnection fee, Penal charges etc	60.31	60.00	50.00	60.00	60.00	60.00
3	Interest on Staff Loans and Advances	0.36	0.30	0.20	0.25	0.30	0.30
4	Interest on Advances to suppliers/ Contractors	2.13	1.86	3.00	3.00	2.00	2.00
5	Interest from Banks	65.95	60.46	3.50	3.50	60.00	60.00
6	Rebate Received	81.36	54.03	35.00	40.00	75.00	60.00

7	Income from sale of scrap etc.	27.25	30.57	32.00	32.00	31.00	31.00
8	Miscellaneous Receipts	49.00	65.00	42.00	49.00	65.00	65.00
9	Wheeling charges recoveries	6.36					
	Grand Total	450.86	**435.56**	**333.20**	**355.25**	**463.30**	**453.30**

Total Expected Revenue from charges

6.5 The total revenue from tariff and revenue from non-tariff income estimated by KSEBL for the year 2014-15 is Rs. 9126.41 crore as shown below:

Table 6.4

Total Expected Revenue from Charges estimated by KSEBL for 2014-15

Particulars	**2012-13** (Provisional) (Rs. crore)	**2013-14** (Revised) (Rs. crore)	**2014-15** (Estimate) (Rs. crore)
Tariff Income	7223.39	8465.21	8673.11
Non- Tariff Income	435.56	463.30	453.30
Total Income	**7658.95**	**8928.51**	**9126.41**

Analysis and Decision of the Commission

6.6 The Commission has examined the sales revenue estimates for the year 2014-15 of the licensee. The projection of the licensee is reasonable and hence the same is approved for the year 2014-15 at the current tariffs.

6.7 The Commission has examined the projections of non-tariff income of KSEBL. The projections for 2014-15 are generally comparable to the estimates in 2013-14. The reduction is mainly in rebate received, and miscellaneous charges. The Commission has allowed the KSEBL to recover the reasonable cost of providing supply, hence there may be increase in revenue under this head. In the case of rebate from CPSUs, the Commission has been allowing the cost of purchase of power from the CGS in the ARR, and hence there is no reason why prompt payment cannot be effected. Further there is revision in tariff for 2014-15 and there will be sufficient revenue available to claim the rebate. Hence, there is no reason that these amounts should remain at the previous years or lower. It is also noted that there is substantial income from pole rental, which is not exclusively shown as part of the non tariff income. The licensee should in the ARR petition shall show the income from pole rental separately. With these observation the Commission is inclined to adopt the projections of the licensee regarding non-tariff income.

Table 6.6

Approved Non-Tariff Income for 2014-15

Sl No	Particulars	2012-13	2013-14	2014-15	
		Actual	Revised	Projected	Approved
		(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)
1	Meter Rent /Service Line Rental	163.34	170.00	175.00	175.00
2	Miscellaneous Charges. Reasonable cost for providing supply, Testing fee, Reconnection fee, Penal charges etc	60.00	60.00	60.00	60.00
3	Interest on Staff Loans and Advances	0.30	0.30	0.30	0.30
4	Interest on Advances to suppliers/ Contractors	1.86	2.00	2.00	2.00
5	Interest from Banks	60.46	60.00	60.00	60.00
6	Rebate Received	54.03	75.00	60.00	60.00
7	Income from sale of scrap etc.	30.57	31.00	31.00	31.00
8	Miscellaneous Receipts	65.00	65.00	65.00	65.00
	Grand Total	**435.56**	**463.30**	**453.30**	**453.30**

6.8 Based on the above, the total revenue available for the year 2014-15 at the existing tariffs are as shown below:

Table 6.7

Approved Revenue from Existing Tariff & Non-Tariff Income for 2014-15

Particulars	**2012-13**	**2013-14**	**2014-15**	
	(Provisional)	(Revised)	(Estimate)	Approved
	(Rs. crore)	(Rs. crore)	(Rs. crore)	(Rs. crore)
Tariff Income	7,223.39	8,465.21	8,673.11	8,673.11
Non- Tariff Income	435.56	463.30	453.30	453.30
Total Income	**7,658.95**	**8,928.51**	**9,126.41**	**9126.41**

6.12 As shown above, the total revenue from the existing tariff and non-tariff income approved for the year 2014-15 is Rs.9126.41 crore, same as the level estimated by the licensee.

Subsidy receivable from the Government

6.13 The Commission has sought the details of subsidy receivable from the Government on account of tariff reduction offered to the consumers on the tariff determined by the Commission. So far the Commission has allowed the

KSEBL, based on their request for providing subsidy to consumers strictly as per the provisions of Section 65 of the Act. As per Section 65, the subsidy amount has to be received in advance and hence there is no possibility of subsidy receivable from the Government. It is clearly provided in Section 65 that in case subsidy is not received in advance, the tariff determined by the Commission is applicable.

6.14 As per the details provided by the licensee vide letter dated 16-7-2014, the subsidy receivable is shown as follows:

Table 6.8
Details of subsidy due as on 31.03.2014

					Rs in crore
Item No	Particulars	Order No	Amount due	Received	Balance
1	Revenue shortfall-Tariff Revision 2012-13 (from 7/2012 to 03/2013 in 2012-13 @ Rs.25 cr pm)	G.O.(MS)No 18/2012/PD dated 06.08.2012	225.00	175.00	50.00
	Revenue shortfall-Tariff Revision 2012-(from 04/2013 to 03/2014 in 2013-14 @ Rs. 25 cr pm)	G.O.(MS)No 18/2012/PD dated 06.08.2012 & G.O.(MS)No 24/2013/PD dated 28.05.2013	300.00	0.00	300.00
	Revenue shortfall-Tariff Revision 2013-(for 3 months in 2013-14 @ Rs. 10.80 cr pm)	G.O.(MS)No 24/2013/PD dated 28.05.2013	30.24	0.00	30.24
	Sub Total		555.24	175.00	380.24
2	Thermal Surcharge 2012-13	G.O.(RT)No87/2013/PD dated 21.03.2013	75.00	50.00	25.00
3	Cash subsidy for exempting domestic consumers whose consumption not exceeding 20 units and connected load not exceeding 500 w. (for 2012-13 & 2013-14) (0.40cr*2)	G.O.(MS) No 27/2013/PD dated 20.06.2013	0.80	0.00	0.80
	Grand Total		631.04	225.00	406.04

6.15 As per the details shown above, as on 31-3-2014, the subsidy receivable from the Government is Rs.406.04 crore. It is important to point out the laxities on the part of the KSEBL in realising the subsidy receivable from the Government. The Commission while approving the subsidy vide letter dated 28-5-2013 had given following conditions:

“ *1. The Government shall release the subsidy in advance to the Board @ Rs.25 crore every month as per G.O. (Ms)No.18/2012/PD dated 6-8-2012.*

2. Additional cash subsidy of Rs.10.08 crore per month for three months from 1-5-2013, announced vide G.O. (Ms).NO.24/2013/PD/ dt. 28-5-2013 for exempting the domestic consumers having monthly consumption upto 120 units and agricultural consumers, from enhancement of tariff as per Order dated 30-4-2013 of the Commission shall also be released in advance to the Board.

3. The Board shall intimate to the Government any excess /short fall in subsidy on a monthly basis and the monthly subsidy shall be adjusted accordingly in the subsequent months as soon as the actual billing data is available, in any case not later than four months.

4. In case the subsidy is not received as provided under Section 65, the tariff determined by the Commission will be made applicable as per the provisions of the Act.

5. KSEB shall promptly communicate all details including the amount of subsidy claimed, actually received etc., on a monthly basis to the Commission.

6. The Board shall clearly show the total demand as per the tariff determined by the Commission, amount of subsidy, balance amount payable by the Consumer etc., in the bills issued to the consumers.

The above approval is applicable to the tariff determined as per the Order dated 25-7-2012 and 30-4-2013 of the Commission and shall not be made applicable to any other subsidy already prevailing. For such cases, the subsidy shall be extended only if the required amount of subsidy is received as per Section 65 of the Act and the tariff determined by the Commission shall be made applicable in case of non-receipt of subsidy.”

6.16 However, it is seen that the KSEBL has not implemented the conditions 3 to 6 fully . it was also made it clear that any subsidy other than the one allowed shall not be implemented without receiving the subsidy. It is noted that the KSEBL is implementing the subsidy schemes without express sanction from the Commission. Further it is also noted that the accounting of subsidy at the field units are also not proper and inconsistent with the directions issued by the Commission. The demand raised in the consumers bill shall be as per the tariff approved by the Commission and the subsidy if any shall be shown as deductions from the demand. Further the total demand /revenue from sale of power shall be aggregated from the field level without subsidy and subsidy amount so extended shall be shown separately in the books. Hence it is also pertinent to point out that the adjustment of electricity duty against the amount receivable from the Government is no longer possible as the electricity duty is adjusted towards the contribution of Master Trust to be constituted for funding the terminal liabilities. Hence, it is the duty of KSEBL to ensure timely receipt of subsidy and in case it is not received, the subsidy shall be stopped forthwith. The licensee is further directed to comply with the conditions given in letter dated 28-5-2013 on accounting of subsidy and furnish the reports as directed on time.

CHAPTER – 7
SUMMARY OF ARR & ERC FOR 2014-15

7.1 The licensee KSEBL has, in the ARR&ERC for 2014-15, has estimated the revenue gap at Rs.2931.21 crore considering the ARR of Rs.11604.32 crore and ERC of Rs.8673.11 crore. In order to bridge the revenue gap KSEBL has proposed tariff increase to the tune of Rs. 1423.63 crore only so as to avoid the tariff increase and to treat the balance revenue gap as regulatory asset to be recovered in subsequent tariff period.

Objections from the consumers

7.2 The HT-EHT Association after a detailed analysis concluded that the revenue requirement for the year 2014-15 will be Rs.8022 crore and the net ARR after deducting non-tariff income will be Rs.7569 crore. The average cost of supply will be Rs.4.13 per unit. Hence there will be surplus to the tune of Rs.1023 crore instead of Rs.2931 crore deficit projected by KSEBL. The surplus if any should be adjusted against the tariff as per the provisions of Electricity Act, 2003 and National Electricity Policy and Tariff Policy.

7.3 M/s. Cochin International Airport in their objections stated that KSEBL had managed sell surplus power during the monsoon season in 2013-14 on account of surplus rainfall, thereby received revenue of Rs.172 crore. Without mentioning the surplus revenue, in the petition, KSEBL has proposed to raise the tariff showing revenue gap which shall not be allowed. The average cost of power has considerably reduced in 2013-14 and the proposal for revision of tariff is unwarranted.

7.4 The President, Pathanamthitta Pourasamithi stated that estimates provided by KSEBL is to justify the revenue gap projected. The revenue gap projected for the year 2014-15 has no scientific basis. The Board by its own should come out of this issue and it is not possible to transfer the burden to the public. It is high time to unbundle KSEBL and privatise the organisation. The Samithi also listed number of suggestions for improvement in the performance of KSEBL. An anonymous consumer mentioned in his submission that the electricity use in the establishments in KSEBL should also be accounted properly.

7.5 According to M/s KDHPCL, the proposal of KSEBL comparing the previous consumption of the consumers is not fair and shall not be allowed and such billing system is expensive for utilities like KDHPCL. M/s MRF stated that with the increase in tariff proposed by the KSEBL, tariff for MRF Limited in Kerala will become the highest compared to its units in other States. This will be in addition to the high operation costs in the State. Hence they requested to avoid tariff increase. Advocate Shri.Sudhakara Kurup, representing Co-ordination Committee of Residents' Association in Mannanthala stated that the proposal of limiting the monthly consumption of domestic consumers to 200 units is not proper and it tantamounts to penalisation or punishment of the consumers. Increasing the domestic tariff by 25% shall not be accepted as it is against the Tariff Policy. He also stated that the petition fee and licence fee should be reduced by the Commission. The representative of Standing Council of Trade Unions stated that as per the Tariff Policy, tariff shock shall not be imposed to any consumer category. The tariff has already increased by 35% in 2012 and 10% in 2013 and now proposed to increase by 20%, which is a blow to the industrial units in the State.

7.6 Representative of M/s. GTN textiles stated that the proposed tariff revision would increase liability by Rs.30 lakh per month and about Rs.4 crore per year. Considering the increases in the previous year the total increase is about 58%, which cannot be accepted in any manner. Hence they requested to reject the tariff proposal. Similarly, M/s.Patspin limited has also stated that the due to the increase in burden, tariff increase should be withdrawn. Further staff unions such as M/s.Patspin employees Association, Palakkad District Textile Mazdoor Sangham, District Textile Mill Workers Union also requested to reject the tariff petition. TELK Workers Association and Telk Employees union stated that another tariff increase is not affordable for the industry and hence requested for reduction in tariff. Malappuram Vanigya Vyvasaya Mazdoor Sangam, Shri. Harichandran, Malappuram, Shri. KPM Nair, Shri. Sharafudeen, Shri. M.A Ramachandran and Kozhikode District Consumer Protection Committee, stated that arrear collection would eliminate the need for tariff revision.

7.7 Shri. Nivas Malayil suggested certain internal reform measures for reducing the cost. He also suggested that the Government should provide subsidy as and when required. The Welfare Party of India, Kozhikode Committee stated that arrear collection from large units will avoid the tariff increase. Already connection charges have been increased and the additional increase in the form of tariff is not necessary.

7.8 KSEB Engineers Association stated that TOD tariff should be introduced for consumption above 300 units for domestic consumers. They have also suggested that tariff re-categoriesation for domestic and LT VII consumers. In the case of incentive for solar power, the average cost of supply should be given as incentive for those generating solar power.

7.9 Shri. Raghunathan stated that increase proposed for domestic consumers is substantial and the industrial consumers are spared from increase. He also mentioned about the arrear collection and other measures for averting the tariff increase. Representatives of Friends of Electricity Employees and Consumers represented that there are peculiarities in the consumption pattern in Kerala, which is dominated by domestic sector. Large chunk of domestic consumers are within 40 to 300 consumption bracket. In agriculture category leaving small and marginal farmers, large farmers should be charged at graded level realising the cost of supply. The tariff proposal for LT categories is not rational. The collection period needs to be improved and metering needs to be more rational.

7.10 Shri. Shoufar Navas, Malappuram stated that the present tariff proposal of the Board for domestic category upto 100 units is an indirect way of increasing tariff. Further reduction in telescopic level upto 200 units from 300 units is also for increasing the tariff indirectly. If the rate increase proposed considering the subsidy is very high. The proposals for increasing the meter rent and fixed charges etc, should be rejected. There is no clarity regarding the subsidy now, It is not clear whether the subsidy announced by the Government in 2012 and 2013 for consumers upto 120 units is available or not. Similarly there is no information on the electricity duty charged and such information is not available in the websites of the Commission and KSEBL. The KSEB Officers Association suggested that the tariff increase should cover the revenue gap and it is not a permanent measure to convert the regulatory assets into revenue gap.

Analysis and decision of the Commission

7.2 As against the estimates of the licensee, the Commission considered the proposal in detail and arrived at the Aggregate Revenue Requirement of Rs.10219.19 crore and total Expected Revenue from Charges of Rs.9126.41 crore as shown below:

Table 7.1
APPROVED ARR&ERC FOR 2014-15

Items	2014-15	
	Proposed by KSEBL	Approved by the Commission
Energy Sales (MU)	18494	18494
T&D Loss (%)	14.75%	14.50%
Energy Requirement (MU)	21696	21630
Aggregate Revenue requirements	***Rs. crore***	**Rs. crore**
Generation of Power	285.91	276.15
Purchase of power	6,575.40	6,205.29
Interest & Finance Charges	1,695.10	1,469.11
Depreciation	585.50	414.80
Employee Cost	2,042.25	1,269.91
Repair & Maintenance	315.54	235.75
A&G Expenses	240.65	103.60
Other Expenses	27.68	6.50
Gross Expenditure (A)	11,767.03	9,981.09
Less : Interest Capitalized	141.64	141.64
Less : Expenses Capitalized	192.46	192.46
Net Expenditure (B)	11,432.93	9,646.99
Statutory Surplus/ ROE (C)	542.35	489.86
Impact of APTEL orders(D)	82.34	82.34
ARR (D) = (B) + (C)+(D)	**12,057.62**	**10,219.19**
Less Non-Tariff Income	453.30	453.30
Net ARR	**11,604.32**	**9,765.89**
Revenue from sale of power	8,673.11	8,673.11
Revenue Gap	**2,931.21**	**1,092.78**
Average Cost of Supply (to be realised from consumers)(Rs./kWh)	6.27	5.28
Average Revenue (Rs./kWh)	4.69	4.69
Revenue gap (Rs./kWh)	1.58	0.59

7.3 Based on the approved ARR & ERC the Commission provisionally arrives at a revenue gap of Rs. 1092.78 crore for 2014-15 as against the revenue gap of Rs.2931.21 crore estimated by KSEBL.

7.4 KSEBL has proposed tariff revision for meeting the part of the revenue gap projected by them for the year 2014-15. The additional revenue from tariff revision proposed by the licensee for the complete year 2014-15 is Rs. 1423.63 crore. The analysis and decisions of the Commission on the tariff proposal are given in the ensuing chapter.

CHAPTER 8
TARIFF ORDER FOR THE FINANCIAL YEAR 2014-15

Introduction

8.1 Kerala State Electricity Board Limited (KSEBL) has estimated an Aggregate Revenue Requirement (ARR) at Rs.12057.62 crore and an Expected Revenue from Charges (ERC) at Rs.8673.11 crore for the Financial Year 2014-15, leaving a revenue gap of Rs.2931.21 crore. Accordingly the KSEBL has submitted on 14.05.2014, a petition for the approval of the above ARR & ERC for the Financial Year 2014-15. The details of approval of ARR and ERC for the financial year 2014-15 have been given in earlier chapters. The KSEBL has also submitted proposals for revision of tariff to the tune of Rs.1423.63 crore to partially bridge the gap projected by them. A summary of the proposals for tariff revision submitted by KSEBL is given below:

Table 8.1
Summary of Tariff Petition for the Year 2014-15

Sl No	Tariff category	Type of installation	Existing tariff		Proposed tariff		Expected additional revenue per year	(%) of increase
			Particulars	Rate	Particulars	Rate		
1	Domestic Category - LT I(a)	LT	1. Fixed Charge (Rs./ month)		Fixed Charge (Rs./ month)			
			(a) Single Phase		1. Single Phase			
			(i) Upto 40 units	Nil	(a) Upto 40 units /month	Nil		
			(ii) More than 40 units	Rs.20	(b) More than 40 units/month	Rs.30	74.44	50.00
			(b) Three phase	Rs.60	2. Three phase	Rs.80	7.68	33.33
			2. Energy Charges		Energy Charges			
			Consumption/month	Rs./unit	Consumption/month	Rs./unit		
			0 to 40 units	1.50	Upto 40 units (all units)	1.50	0	0
			0 to 80 units	2.20	0-100 units (all units)	2.80	192.88	23.65
			81 to 120 units	3.00	101-200 units	4.80	270.11	27.73
			121 to 150 units	3.80				
			151 to 200 units	5.30				
			201 to 300 units	6.50	0-250 units (all units)	4.50	15.40	6.46
					0- 300 units (all units)	5.20	36.61	23.02
			0-350 units	5.00	0- 350 units (all units)	5.70	11.46	14.00
			0-400 units	5.50	0- 400 units (all units)	6.10	6.01	10.91
			0-500 units	6.00	0- 500 units (all units)	6.50	5.55	8.33
			Above 500 units	7.00	Above 500 units	7.25	5.7	3.57
	Total						**625.84**	**22.15**
2	Colonies (LT-II)	LT	Fixed charges (Rs. /month)	2200.00	Fixed charges (Rs. /month)	2400.00	1.05	7.96
			Energy Charge (Rs/ kWh)	6.50	Energy Charge (Rs/ kWh)	7.00		
3	LT-III (A) Temporary Connections & Temporary Extensions	LT	Daily minimum Rs/KW or part thereof connected load whichever is higher	140.00	Daily minimum Rs/KW or part thereof connected load whichever is higher	150.00		
						OR		
			Energy Charge (Rs/ kWh)	14.00	Energy Charge (Rs/ kWh)	15.00		
4		LT						
	(a) LT- IV (A) - Industry		Fixed charges		Fixed charges			
			(a) Connected load below 8 KW (Rs / consumer)	60.00	(a) Connected load below 8 KW (Rs / consumer)	75.00	122.68	19.91

Sl No	Tariff category	Type of installation	Existing tariff		Proposed tariff		Expected additional revenue per year	(%) of increase
			Particulars	Rate	Particulars	Rate		
			(b) Connected load above 8 KW (Rs / kW/ month)	60.00	(b) Connected load above 8 KW (Rs / kW/ month)	75.00		
			Energy Charge (Rs/ kWh)	4.70	Energy Charge (Rs/ kWh)	5.60		
	(b) LT- IV (B) - Industry	LT	Fixed charges		Fixed charges		2.61	18.12
			connected load below 8 KW (Rs / consumer)	60.00	connected load below 8 KW (Rs / consumer)	75.00		
			connected load above 8 KW(Rs / kW/ month)	60.00	connected load above 8 KW(Rs / kW/ month)	75.00		
			Energy Charge (Rs/ kWh)	5.10	Energy Charge (Rs/ kWh)	6.00		
	Demand charges for LT IV ToD consumers		Demand charge(Rs/KVA/month)	100		125		
5	LT- V - AGRICULTURE							
	(a) LT - V (A) Agriculture	LT	Fixed charges (Rs / kW/ month)	6.00	Fixed charges (Rs / kW/ month)	8.00	31.11	53.70
			Energy Charge (Rs/ kWh)	1.50	Energy Charge (Rs/ kWh)	2.40		
	(b) LT - V (B) Agriculture	LT	Fixed charges (Rs / kW/ month)	6.00	Fixed charges (Rs / kW/ month)	8.00		
			Energy Charge (Rs/ kWh)	2.00	Energy Charge (Rs/ kWh)	2.90		
6	LT-VI - NON DOMESTIC	LT						
	(LT-VI A)- Non-Domestic	LT			LT VI A - Non-Domestic			
			Fixed charges (Rs / kW/ month)	50.00	Fixed charges (Rs / kW/ month)	75.00	28.7	25.27
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			Up to 500 units	5.10	Up to 500 units	6.30		
			Above 500 units	5.90	Above 500 units	7.00		
	LT-VI(B)	LT	Fixed charges (Rs / kW/ month)	70	Fixed charges (Rs / kW/ month)	75.00	8.37	4.39
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			Up to 500 units	5.85	Up to 500 units	6.30		
			Above 500 units	7.00	Above 500 units	7.00		
	LT-VI (C)	LT	Fixed charges (Rs./ KW/month)	180	Fixed charges (Rs/KW. /month)	180.00	4.21	2.38
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			Up to 500 units	7.00	Up to 500 units	7.25		
			Above 500 units	8.50	Above 500 units	8.70		
	LT-VI(D)	LT	Fixed charges (Rs./ KW/month)	Nil	Fixed charges (Rs./ KW/month)	Nil	0.34	53.33
			Energy Charge (Rs/ kWh)	1.50	Energy Charge (Rs/ kWh)	2.30		
	LT-VI (E)	LT	Fixed charges (Rs. /month)		Fixed charges (Rs. /month)		0.4	23.22
			Single Phase consumers	20.00	Single Phase consumers	25.00		
			Three phase consumers	60.00	Three phase consumers	75.00		
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)	5.00		
			Upto 120 units	3.30				
			Upto 200 units	4.10				
			Above 200 units	6.00				
7	LT-VII(A) Commercial	LT	Fixed charges (Rs./ KW/month)		Fixed charges (Rs./ KW/month))			
			Single Phase consumers	60.00	Single Phase consumers	70	61.5	5.01
			Three phase consumers	120.00	Three phase consumers	130		
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			Upto 100 units per month	5.80	Upto 100 units per month	6.50		
			Upto 200 units per month	6.50	Upto 200 units per month	7.10		
			Upto 300 units per month	7.20	Upto 300 units per month	7.60		

Sl No	Tariff category	Type of installation	Existing tariff		Proposed tariff		Expected additional revenue per year	(%) of increase
			Particulars	Rate	Particulars	Rate		
			Upto 500 units per month	7.80	Upto 500 units per month	8.20		
			Above 500 units per month	9.10	Above 500 units per month	9.30		
	LT VII (B) Commercial	LT	Fixed charges (Rs./ KW/month)	40.00	Fixed charges (Rs./ KW/month)	50.00	35.50	14.81
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			Upto 100 units per month	4.20	Upto 100 units per month	5.00		
			Upto 200 units per month	5.20	Above 100 units	6.30		
			Upto 300 units per month	6.20				
	LT-VII(C) Non-Domestic	LT	Fixed charges (Rs./ KW/month)	90.00	Fixed charges (Rs./ KW/month))	100.00	6.64	12.27
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			Upto 1000 units per month	5.40	Upto 1000 units per month	6.20		
			Above 1000 units per month	7.00	Above 1000 units per month	7.50		
8	LT-VIII General	LT	Fixed charges (Rs./ KW/month)		Fixed charges (Rs./ KW/month)			
			Single Phase consumers	60.00	Single Phase consumers	70.00	5.82	8.93
			Three phase consumers	120.00	Three phase consumers	130.00		
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			Upto 100 units per month	5.50	Upto 200 units per month	6.30		
			Upto 200 units per month	6.00				
			Upto 300 units per month	6.50	Upto 500 units per month	7.50		
			Upto 500 units per month	7.50				
			Above 500 units per month	8.50	Above 500 units per month	9.00		
9	Public Lighting (LT IX) Metered Supply	LT	Fixed charges (Rs. /meter/month)	30.00	Fixed charges (Rs. /meter/month)	40.00	24.99	23.08
			Energy Charge (Rs/ kWh)	3.00	Energy Charge (Rs/ kWh)	3.75		
	HT & EHT Tariff							
10	HT I Industrial							
	HT-I(A) Industrial	HT	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	188.62	18.99
			Energy Charge (Rs/ kWh)	4.60	Energy Charge (Rs/ kWh)	5.50		
	HT-I(B) Industrial	HT	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	0.35	15.91
			Energy Charge (Rs/ kWh)	5.00	Energy Charge (Rs/ kWh)	5.80		
11	(HT-II) (Non-Industrial/ Non-Commercial)	HT	Demand Charge (Rs/kVA/month)	350.00	Demand Charge (Rs/kVA/month)	380.00	15.94	19.11
			Energy Charge (Rs/ kWh)	4.45	Energy Charge (Rs/ kWh)	5.50		
12	HT III Agriculture							
	(HT-III(A) Agriculture	HT	Demand Charge (Rs/kVA/month)	165.00	Demand Charge (Rs/kVA/month)	200.00	1.22	34.72
			Energy Charge (Rs/ kWh)	1.80	Energy Charge (Rs/ kWh)	2.80		
	(HT-III(B) Agriculture	HT	Demand Charge (Rs/kVA/month)	165.00	Demand Charge (Rs/kVA/month)	200.00	0.12	34.29
			Energy Charge (Rs/ kWh)	2.30	Energy Charge (Rs/ kWh)	3.30		
13	HT IV Commercial							
	HT IV(A) Commercial	HT	Demand Charge (Rs/kVA/month)	400.00	Demand Charge (Rs/kVA/month)	440.00	30.13	6.63
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			upto 30,000 units (all units)	6.10	upto 30,000 units (all units)	6.70		
			above 30,000 units (all units)	7.20	above 30,000 units (all units)	7.50		
	HT IV (B) Commercial (Hotels and	HT	Demand Charge (Rs/kVA/month)	400.00	Demand Charge (Rs/kVA/month)	440.00	4.05	3.57

Sl No	Tariff category	Type of installation	Existing tariff		Proposed tariff		Expected additional revenue per year	(%) of increase
			Particulars	Rate	Particulars	Rate		
	Restaurants) **New Category**		Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			upto 30,000 units (all units)	6.10	upto 30,000 units (all units)	6.50		
			above 30,000 units (all units)	7.20	above 30,000 units (all units)	7.20		
14	HT V General	HT	Demand Charge (Rs/kVA/month)	400.00	Demand Charge (Rs/kVA/month)	440.00	13.75	5.88
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			upto 30,000 units (all units)	6.00	upto 30,000 units (all units)	6.60		
			above 30,000 units (all units)	7.00	above 30,000 units (all units)	7.20		
15	EHT- I-Industrial 66 KV	EHT	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	340.00	34.65	19.06
			Energy Charge (Rs/ kWh)	4.40	Energy Charge (Rs/ kWh)	5.30		
16	EHT-II 110 kVsupply	EHT	Demand Charge (Rs/kVA/month)	290.00	Demand Charge (Rs/kVA/month)	330.00	77.54	19.73
			Energy Charge (Rs/ kWh)	4.30	Energy Charge (Rs/ kWh)	5.20		
17	EHT- III 220 kVsupply	EHT	Demand Charge (Rs/kVA/month)	275.00	Demand Charge (Rs/kVA/month)	310.00	9.20	17.95
			Energy Charge (Rs/ kWh)	4.35	Energy Charge (Rs/ kWh)	5.20		
18	EHT- IV Non Industrial category (66/110/220 KV)	EHT	Demand Charge (Rs/kVA/month)	375.00	Demand Charge (Rs/kVA/month)	420.00	3.71	6.52
			Energy Charge (Rs/ kWh)		Energy Charge (Rs/ kWh)			
			upto 60,000 units (all units)	6.00	upto 60,000 units (all units)	6.70		
			above 60,000 units (all units)	7.00	above 60,000 units (all units)	7.20		
19	RAILWAY TRACTION	EHT	Demand Charge (Rs/kVA/month)	250.00	Demand Charge (Rs/kVA/month)	275.00	26.05	23.5
			Energy Charge (Rs/ kWh)	4.35	Energy Charge (Rs/ kWh)	5.50		
20	Bulk Consumers/ Licensees							
	Kinesco Power Utilities Private Limited	110 KV	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	7.21	19.53
			Energy Charge (Rs/ kWh)	4.75	Energy Charge (Rs/ kWh)	5.70		
	Cochin Special Economic Zone	110kV	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	5.56	19.85
			Energy Charge (Rs/ kWh)	4.40	Energy Charge (Rs/ kWh)	5.30		
	Rubber Park India Pvt.Ltd	110 kV	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	3.02	20.27
			Energy Charge (Rs/ kWh)	4.55	Energy Charge (Rs/ kWh)	5.50		
	Technopark	110 KV	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	8.23	19.59
			Energy Charge (Rs/ kWh)	4.85	Energy Charge (Rs/ kWh)	5.85		
	Cochin Port Trust	110 KV	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	4.2	20.25
			Energy Charge (Rs/ kWh)	5.05	Energy Charge (Rs/ kWh)	6.10		
	Thrissur Corporation	110 & 66 KV	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	14.4	20.72
			Energy Charge (Rs/ kWh)	4.40	Energy Charge (Rs/ kWh)	5.35		
	Kannan Devan Hills Plantation Company limited	11 KV	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350.00	4.02	23.51
			Energy Charge (Rs/ kWh)	3.80	Energy Charge (Rs/ kWh)	4.75		
	Military Engineering Services	11 KV	Demand Charge (Rs/kVA/month)	350.00	Demand Charge (Rs/kVA/month)	400.00	7.15	20.07
			Energy Charge (Rs/ kWh)	4.45	Energy Charge (Rs/ kWh)	5.40		

Sl No	Tariff category	Type of installation	Existing tariff		Proposed tariff		Expected additional revenue per year	(%) of increase
			Particulars	Rate	Particulars	Rate		
	Electricity Department Karnataka	11 KV	Demand Charge (Rs/kVA/month)	350.00	Demand Charge (Rs/kVA/month)	400.00	0.07	19.03
			Energy Charge (Rs/ kWh)	4.45	Energy Charge (Rs/ kWh)	5.40		
	Electricity Department Pondicherry	110 KV	Demand Charge (Rs/kVA/month)	350.00	Demand Charge (Rs/kVA/month)	400.00	4.35	20.31
			Energy Charge (Rs/ kWh)	4.45	Energy Charge (Rs/ kWh)	5.40		
	Infopark	11 KV	Demand Charge (Rs/kVA/month)	300.00	Demand Charge (Rs/kVA/month)	350	0.72	20.38
			Energy Charge (Rs/ kWh)	4.85	Energy Charge (Rs/ kWh)	5.85		
	Total						**1423.64**	16.41

The KSEBL is expecting an additional revenue of Rs.1423.63 crores from the proposed tariff revision. A summary of the additional revenue expected from various categories of consumers is given below:

Table 8.2
Increase in Revenue based on the Tariff Proposed by the Board

Sl No	Category	Revenue at present tariff	Revenue at proposed tariff	Increase	(%) of increase
		(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	
1	LT-1 Domestic	2825.21	3451.05	625.84	22.15
2	LT-II Colonies	13.19	14.24	1.05	7.96
3	LT-IV (A) Industry	616.12	738.80	122.68	19.91
4	LT-IV(B) Industry	14.39	17.00	2.61	18.12
5	LT-V Agriculture	57.93	89.03	31.11	53.70
6	LT-VI(A)+ LT VI (B)	304.24	341.30	37.07	12.18
7	LT-VI(C)	177.16	181.37	4.21	2.38
8	LT-VI(D)	0.64	0.98	0.34	53.33
9	LT-VI(E)	1.73	2.13	0.40	23.22
10	LT-VII(A)	1228.60	1290.10	61.50	5.01
11	LT-VII(B)	239.73	275.23	35.50	14.81
12	LT-VII(C)	54.15	60.79	6.64	12.26
13	LT-VIII	65.18	71.01	5.82	8.93
14	LT-IX Public lighting	108.28	133.27	24.99	23.08
15	HT1 (A) Industry	991.36	1179.64	188.28	18.99
16	HT-1(B) Industry	2.20	2.55	0.36	16.17
17	HT-II	83.42	99.36	15.93	19.10
18	HT-III(A) Agriculture	3.51	4.73	1.22	34.74
19	HT-III(B) Agriculture	0.35	0.47	0.12	35.37
20	HT-IV (A) Commercial	454.36	484.48	30.13	6.63
21	HT-IV (B) Commercial	113.59	117.64	4.05	3.57
22	HT-V General	233.98	247.73	13.75	5.88

Sl No	Category	Revenue at present tariff	Revenue at proposed tariff	Increase	(%) of increase
23	EHT-1	181.79	216.44	34.65	19.06
24	EHT-II	392.92	470.45	77.54	19.73
25	EHT-III	51.25	60.45	9.20	17.95
26	EHT-Non Industrial	56.83	60.53	3.70	6.51
27	Railway traction	110.84	136.89	26.05	23.50
28	Licensees	290.19	349.09	58.90	20.30
	Total	8673.11	10096.74	1423.63	16.41

8.2 The proposals submitted by KSEBL have been duly examined and processed by the Commission, in view of the relevant facts and circumstances, the arguments and views expressed by the stakeholders in the public hearings as well as the relevant rules, regulations and norms. The Commission, after due process, has approved an ARR of Rs.10219.19 crore and an ERC of Rs.9126.41 crore and fixed the revenue gap at Rs.1092.78 crore for the Financial Year 2014-15. The average cost of supply for the Financial Year 2014-15 has been assessed at Rs.5.28 per unit as against the average cost of supply of Rs.5.03 per unit for the Financial Year 2013-14. As per addendum to the petition for approval of ARR and ERC for the financial year 2014-15, KSEBL submitted proposals for transmission charges, wheeling charges, cross subsidy charges and additional surcharge applicable to open access consumers as well as for pooled cost of power purchase and meter rent for the Financial Year 2014-15.

8.3 In this order the Commission approves only the ARR and ERC and retail tariff of various categories of consumers of KSEBL for the Financial Year 2014-15. Orders with regard to Bulk Supply to licensees, transmission charges, wheeling charges, cross subsidy charges and additional surcharge for open access consumers, pooled cost of power purchase and meter rent for KSEBL and other licensees for the Financial Year 2014-15 will be issued separately. The retail tariff of KSEBL will be applicable for all the distribution licensees in the State.

ISSUES RAISED IN THE PUBLIC HEARINGS ON 30.06.2014 AT KOZHIKODE, ON 02.07.2014 AT ERNAKULAM AND ON 04.07.2014 AT THIRUVANANTHAPURAM.

(a) On Domestic Tariff

8.4 Sri. Sasthamangalam N.Pillai, representing the Council of Residents Association pointed out that the proposed increase in tariff is due to the inefficiency of the staff of KSEBL and hence shall not be passed on to the consumers. Any financial loss to KSEBL due to the inefficiency of employees of KSEBL shall be recovered from them and not passed on to the consumers. Sri. T.K.Bhaskara Panicker, President, Federation of Residents Associations, Thiruvananthapuram (FRAT) pointed out that the arrears of electricity charges to be collected from Government organizations and Industrial units is estimated to be to the tune of Rs.1500 crores as per the report of Comptroller and Auditor General (CAG). Action shall be taken to collect this amount urgently. Further concessions are extended by way of reduction in electricity charges to industrial units and government organizations and KSEBL shall be compensated for such losses by the Government and such losses of KSEBL shall not be passed on to consumers by increasing electricity tariff. Adv.C.Sudhakara Kurup, General Secretary, CORAM (Co-ordination Committee of Residents Associations, Mannanthala) brought to the notice of the Commission that the proposal of KSEBL to reduce the limit of telescopic tariff from the present 300 Units per month to 200 Units / month will put domestic consumers to hardship since the increase in bill amount will be very high for those who consume above 200 Units / month. As per the proposal of KSEBL consumers having monthly consumption in the range 201 t0 250 Units / month will have to pay at the rate of Rs. 4.50/Unit for the entire consumption. This will result in tariff shock which shall be avoided as per National Tariff Policy. Hence the proposal of KSEBL for imposing lower limit for telescopic tariff may be rejected in total. He further pointed out that the high amount of licence fee paid by licensees to the Commission is also giving burden to consumers by way of increase in tariff. Hence the Commission can consider if the license fee can be reduced in public interest.

8.5 Sri. M.M.Khayum, Welfare Party of India , Kozhikode District Committee pointed out that if action is taken to collect arrears due from large industrial units KSEBL can become a profitable organization. If the list of amounts written off during the last 20 years is published it will reveal many concealed transactions in the organization.

8.6 Sri K.S.Suresh Babu, Chairman, KSEB Engineers Association suggested that TOD tariff shall be introduced for all domestic consumers who consume more than 300 Units / month and TOD tariff should be at least 150% of normal tariff during peak hours and 75% during off peak hours. It was further suggested that the present fixed charge for three phase consumers shall be retained at Rs.60/month for consumers who consume up to 300 Units / month. But for consumers having consumption more than 300 Units / month, the fixed charges shall be decided based on maximum demand for the month and it shall be Rs.30/kW or part thereof. The minimum fixed charge shall be Rs.60/month.

8.7 Sri Puthussery Viswanathan, Secretary, Residents Apex Council of Kozhikode pointed out that the expenditure incurred due to inefficiency of employees of KSEBL shall not be passed on to consumers by way of increase in electricity charges. Sri Abdul Samad , Calicut pointed out that he lives in a joint family with his sons and their families and hence consumption of electricity is very high and the bill amount is high. He requested that such consumers shall not be subjected to increase in electricity tariff. Sri P.Ramachandran Nair, Secretary, Pathanamthitta Poura Samithy requested that the slab system shall be done away with and all domestic consumers shall be charged at single rate and arrears shall be collected immediately. Sri P.K.Saidu, Advocate pointed out that the quality of service also should increase along with increase in tariff rates. The salary conditions of employees should be linked with the profit and loss of operations.

8.8 Sri P.M.Sreekrishnan of Kannan Devan Hill Plantation Company Private Ltd pointed out that in paragraph 10.2.5 of the petition for low consumption of domestic consumers, the tariff based on the previous years consumption is proposed. Lower past consumption may have been for many reasons like consumer was out of residence for many days. Moreover it will penalize a consumer who had sincerely contained his power consumption but whose consumption of energy has to go up for some good reasons.

8.9 Sri M.G.Suresh Kumar, General Secretary KSE Board Officers Association stated that tariff shock should be avoided while fixing the tariff. For domestic consumers who consume below their average consumption, incentives shall be provided. Higher tariff should be imposed on those who consume more. The average consumption for domestic purpose in the state is 80 Units / month. Up to 80 units, the tariff should be fixed with no reduction in the existing cross subsidy. Average cost should be recovered from consumers who consume more than 240 Units / month. For those who consume more than 500 Units / month, the tariff shall be the cost of supply which has been assessed by KSEBL at Rs.6.29/Unit and 20% cross subsidy contribution which comes to Rs.7.50/Unit.

(b) On HT and EHT Industrial Tariff

8.10 The Kerala High Tension and Extra High Tension Industrial Electricity Consumers' Association pointed out that although tariff is the same for all EHT voltages, low load factor of the consumers at 220 kV is leading to higher effective rate. This shows the counter – intuitive and pernicious effect of unjustifiable high fixed charge in Kerala. Commission has notified draft voltage wise cost values based on ARR of KSEBL. This is only a draft using losses and functional costs as claimed by KSEBL, which cannot be taken as final. The proposed tariff hike will be against the judgment of the Hon. APTEL in appeal No 179 of 2012 , as it would rise the level of cross subsidy from current levels when calculated on the basis of voltagewise cost to serve. . Therefore the maximum allowable tariff levels for HT and EHT consumers maintaining same cross subsidy levels as that of 2013-14 shall be Rs 4.60/Unit for HT Industries, Rs 4.69/Unit for EHT (66 kV), Rs 4.35/Unit for EHT (110 kV) and Rs 4.89/Unit for EHT (220 kV). In line with tariff policy they proposed a 10% reduction there by arriving Rs 4.60/Unit, Rs 4.53/Unit, Rs 4.23/Unit and Rs 4.72/Unit for HT Industries, EHT(66 kV), EHT (110 kV) and EHT(220 kV) consumers respectively.

8.11 Sri K.N.Gopinath, General Convenor, Standing Council of Trade Unions stated that considering the fact that higher voltages have less losses, when tariff is fixed consumers availing power at high voltages shall be extended the benefit of lower losses. Different Trade Unions of GTN Textiles pointed out that increase in electricity tariff will adversely affect the functioning of GTN Textiles. Sri M.P.Chandran GM Manufacturing ,Patspin India Limited requested not to approve the KSEBL proposal to increase the tariff since their company is incurring heavy financial loss and the proposed move will hasten the process of making their unit unviable. K.Rajagopal, Sr Manager, GTN Textiles Ltd, Aluva requested the Commission to improve efficiency of operation and not revise power tariff for safe guarding the industry as well of livelihood of more than 1000 employees who are depending on this industry. Sri C.Moorthy, Secretary, Patspin India Limited Employees Association pointed out that increase in electricity tariff will effect the very existence of Patspin India Ltd and hence increase in electricity tariff shall not be approved. Sri M.Anandan, Secretary, Palghat District Textile Mazdoor Sanghom stated that their organization cannot withstand and increase in electricity tariff and hence the proposal of KSEBL to increase the tariff shall not be approved. Sri.C.Ramesh, Secretary, District Textile Mill Workers Union endorsed the views of Sri M.Anandan. In the objections filed by all Trade Unions and Officers Association of Travancore Cochin Chemicals Ltd stated that any increase in tariff is unaffordable to industries which may lead to lay off of workmen or closure of industries thereby affecting the lives and livelihood of large number of workmen. Sri C.K.Mathew, Secretary, Hindustan Paper Corporation Employees Association, Newsprint Nagar, pointed out that any increase in tariff for industrial consumers is unaffordable to HNL and hence the proposal of KSEB Ltd to increase electricity tariff shall be rejected. Sri P.Krishnan Kutty Pillai, Secretary, Kerala News Print Employees Union and Sri Joseph K. Xavier, Secretary, HNL Employees Association also endorsed the views of Sri C.K.Mathew. Sri Saji Varghese, Plant Head MRF Limited, Kottayam requested that direction may be issued to KSEBL to reduce its operational cost so that the gap between revenue from charges and revenue requirement can be reduced, to ensure compliance with the Judgment of Hon APTEL in Appeal No 179 of 2012 and to reduce the cross subsidy which in turn will reduce the tariff of EHT consumers. It was further requested that the Commission may disallow the proposal of KSEBL to revise tariff of EHT consumers. Sri K.N.Gopinath, General Secretary, Aluminium Factory Workers Union (CITU) stated that KSEBL shall reduce the cost of operation by generating more electricity from hydel stations and increasing productivity of the organization. Sri.Rageshkumar, General Secretary, Binani Zinc

Employees Union, Sri Unnikrishnan K.V Binani Zinc Employees Association and P.P.Joy, General Secretary, Binani Ziinc Employees Organization in their combined submission stated that, since higher voltages have lesser transmission loss, the HT and EHT consumers shall be extended the consequential benefits while fixing tariff, since the utility is getting benefits as a result of consumption at higher voltages.

8.12 Sri P.V.Girish, Deputy General Manager, Travancore Cochin Chemicals Ltd., stated that the peak load demand in the state is almost twice that during off peak hours. Due to the wide variation between peak and off peak demand the system capacity created to meet the peak demand is being kept idle during off peak hours. In order to improve the capacity utilization of the system and as a demand side management measure, attractive incentives should be introduced for the continuous process industries. Sri A.R. Satheesh, Carborundum Universal Ltd stated that no major effort is made by KSEBL to reduce T&D loss in Kerala. Even in 2014-15, KSEBL is operating at 15% loss. T&D loss reduction plan for 2014-15 is 0.25%, T&D loss achieved in 2012-13 is 0.35% and in 2013-14 it is 0.30%. The reduction of T&D loss achieved by KSEBL is not up to the mark.

(c) On Tariff Applicable for Railways

8.13 Sri. B.V Chandrasekhar, Chief Electrical Distribution Engineer, Southern Railway submitted that the Commission might take up tariff rationalization and bring cross subsidies within the limit of + or – 20% of the cost of supply. Further, the cross subsidy percentage have to be reduced to the possible extent. Energy charges for Railways shall be on par with EHT Industrial consumers and demand charges shall be fixed at Rs.250/kVA. He further requested to notify separate terms and conditions for Railway Traction wherein the recorded MD during feed extensions due to power supply interruptions attributable to KSEBL, such as maintenance shutdown, failure of KSEBL equipment or failure of incoming supply to KSEBL, may be ignored for billing purposes. The total drawal during ‘feed extension’ may be limited to combined demand of ‘feed extended’ as well as ‘feed extending’ sub-stations. Drawal over and above such combined demand may be charged at the prevailing rates.

(d) On Commercial Tariff

8.14 Sri. S.Sivakumar, Senior Plant Manager, Indian Oil Corporation, Thenhipalam, Malappuram brought to the attention of the Commission that the tariff for their unit LPG Cylinder Filling Plant, shall be re-categorized from HT IV Commercial category to HT I Industrial category considering the process undergone in their plant. Sri R. Balasubramoniam, Chief Plant Manager, Indian Oil Corporation Ltd., Parippally also raised the same issue and requested for re-categorization of their LPG Cylinder Filling Plants under HT I industrial category. Sri. Renjith Mathew, Senior Law Officer, Hindustan Petroleum Corporation requested that LPG Bottling Plants of HPCL shall be re-categorized from HT IV Commercial to HT I Industrial considering the process in the LPG Bottling Plants.

8.15 Kerala State Co-Operative Hospital Complex and Centre for Advance Medical Service, Pariyaram, Kannur pointed out that there is no justification for classifying their institution as commercial institution and charging electricity in HT V General category. He requested for re-categorization of this consumer under HT II Non-Commercial category of tariff.

8.16 Sri K.M.Abdul Azeez, General Secretary, The Kerala Film Chamber of Commerce stated that the tariff revision proposed for theatres in HT IV is very high. The present system of charging the total consumption at the increased tariff is not acceptable. Therefore the system of calculating tariff for HT IV and LT VII C shall be revised.

8.17 Sri. M.S.S.Rao, Chief General Manager, Bharat Sanchar Nigam stated that telephone exchanges and administrative buildings of BSNL are categorized under HT IV (A) Commercial and LT-VII A Commercial. In the tariff proposal KSEBL proposed a separate tariff for HT IV B (Commercial) for hotels, restaurants lodges etc even though they are purely commercial and were categorized under HT IV along with BSNL. In view of the above and taking into account the special status of BSNL, which is fully owned by the Government of India may be separately categorized with lower rate than commercial rate. BSNL may be exempted from the higher energy tariff proposed for monthly consumption above 30000 Units / month.

8.18 Sri. Satish Prathap, Indian Association of Hall Marking Centres, pointed out that considering the nature of use their units, the tariff shall be re-categorized from LT VII Commercial to LT IV (B) Industrial Tariff in line with IT and IT Enabled Services.

8.19 Fr. Simon Pullupetta, Executive Director, Catholic Health Association of India, Kochi stated that the proposal of KSEBL to re-categorize all private hospitals from LT VI (A) to LT-VII Commercial shall not be allowed since they are hospitals with registration under the Travancore-Cochin Literary, Cultural, Scientific and Charitable Societies Act and exempted from payment of Income Tax.

(e) On Tariff for Small Industries

8.20 Sri. Augustine Karimpumkala, President, All Kerala Small Scale Flour & Rice Mill Owners Association pointed out that they shall be further categorized as small, medium and large industrial units . Those who consume less than 200 Units / month shall be charged less . Those who consume 500 or more units per month shall be charged higher and those who consume above 1000 Units per month shall be charged the highest considering them as large industrial units. Fixed charge have to be eliminated. Sri.Satheesan, President, Wood Industries Welfare Association requested that the limit of 8kW fixed shall be increased to 15 kW since the use of one or two small tools will result in exceeding the limit of 8 kW and consumers will have to pay fixed charges at the rate of Rs.60/kW/ month. Sri K.Narendran, General Secretary, Mini Rice Millers Association, Mudappallur requested that since they do not have revenue to meet even the electricity charges, fixed charges for LT IV (A) category shall be eliminated. Further meter rent shall not be collected, since KSEBL has collected more than the cost of meter by way of meter rent.

(f) On EHT Non Industrial category

8.21 The Director, International Airport, Trivandrum, Airport Authority of India, has requested that there shall not be any tariff increase for them and also that they may be re- categorized as EHT-Industry considering the nature of activities of Airports. Sri.A.Chandrakumaran Nair, Director, Cochin International Airport Ltd has pointed out that the object for which electricity is required for Cochin International Airport is to perform the essential services as desired by the rule of the land. Operation of aerodrome is an essential service under the Essetial Services Maintenance Act, 1968. CIAL is committed to provide the utility services and facilities at their air port free of cost and they are not charging any user fees from general public. The basic function of air port is to provide public utility services and hence has to be categorized along with EHT industrial consumers as was done before.

8.22 Sri.K.S.Mohan Babu, Group Head CMG, Vikram Sarabhai Space Centre, Thiruvananthapuram stated that VSSC, Thumba is an organization under Department of Space , Government of India and deals with R&D activities relating to the Space Launch Vehicles such as PSLV, GSLV, RLV etc. No commercial activities are taking place there. Till last tariff revision there was no categorization for EHT consumers and they were charged at Rs.4.00/Unit for energy and Rs 290/kVA for maximum demand. In the tariff revision on 30-04-2013, VSSC was included under newly introduced EHT Non Industrial category and the tariff was fixed at Rs 7/Unit (above 60000 Units) and Rs 375/kVA for maximum demand. Hence there is a difference of Rs 2.55/Unit for energy charges and Rs 25/kVA for demand charges. They have requested to reduce the rate applicable to VSSC in energy charges and maximum demand charges on par or less than HT consumers of the same category.

(g) On General Issues

8.23 People for Animals, Kollam Chapter requested that the Animal Hospital and the Shelter for Animals run by the chapter which is categorized under LT VI A may be brought under category LT VI D considering the service they are rendering to orphaned animals without any aid for running expenses.

8.24 Indian Dental Association has pointed out that dental clinics shall be categorized under LT VI (B) at par with the offices of other professionals like offices of chartered accountants, consulting engineers, advocates, etc.

8.25 Sri. Punchakkari G.Raveendran Nair requested that all encouragement shall be extended to domestic consumers who wish to expand capacity of their existing roof top solar plants.

8.26 For convenience of analysis and decision making, the issues relating to tariff revision have been divided into the following parts.

Part 1: Re categorization of consumers
Part 2: Revision of Retail Tariff
Part 3: Time of Day Tariff and other charges

PART – 1 - RE-CATEGORISATION OF CONSUMERS

8.27 Section 62 of the Electricity Act 2003 deals with determination of tariff by appropriate Regulatory Commissions. Sub Section (3) of Section 62 of the Electricity Act, 2003 stipulates that Regulatory Commissions shall not while determining the tariff, show undue preference to any consumer of electricity; but may differentiate according to consumer's load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which supply is required or the geographical position of any area, the nature of supply and the purpose for which supply is required. The provisions of Section 62 (3) allows categorization of consumers on the basis of several factors such as load factor, power factor, consumption, geographical position, voltage level of supply and the purpose for which the supply is required.

8.28 The categorisation or classification of consumers is based on appropriate criteria and justified by reasons. The tariff for electricity in the state has been structured mainly based on voltage level at which supply is given and the purpose for which electricity supply is used. Accordingly tariff is being determined at LT, HT and EHT levels as well as based on purposes such as domestic, industrial, agricultural and commercial.

8.29 The Board has submitted proposals for re-categorisation of certain group of consumers. During the public hearings, certain groups of consumers have requested for reclassification and inclusion into appropriate tariff categories. The proposals submitted by the Board and the representations submitted by various consumer groups have been duly examined by the Commission. It is noticed that certain tariff categories contain classes or groups of consumers which blend more harmoniously with certain other categories. It is also noticed that certain consumer groups have not yet been specifically included in any consumer category with reference to the purpose for which power is availed by them and certain other groups have not been included in appropriate consumer category to which they should have been naturally included. Therefore it is found that re-categorization of such classes or groups of consumers is required. The Commission has carefully considered such proposal in view of the legal provisions and socio-economic realities and re-categorized some group of consumers.

8.30 In the Judgment of the Hon. Appellate Tribunal for Electricity (APTEL) in Appeal No 110 of 2009 it is stated that

"The State Commission cannot create a residuary category and put all the non-domestic and non-industrial units into a commercial category in order to impose tariff on such categories. If there is intelligible differentia which is a separate group within the clause from the rest and that differentia has nexus with object sought to be achieved, there can be further classification. The classification is reasonable if it includes all persons who are similarly situated with respect to the purpose of use. Section 62(3) mandates exercise of power for determination of tariff on the basis of criteria, which is specified under the stature. If power is exercised with reference to such a criteria, then Court would set aside such order and direct the authorities to take a decision on relevant considerations."

8.31 In the existing tariff schedule, there are categories of consumers with different purposes for the utilization of energy who can be appropriately categorized as per Section 62 (3) of the Electricity Act, 2003. At present there are categories such as Low Tension-VI Non-Domestic, High Tension (HT-II) Non Industrial / Non Commercial and EHT Non Industrial. Such residuary categories have to be re-categorized based on the purpose of use of electricity.

8.32 KSEBL has submitted the following proposals before the Commission for re-categorization, as per their addendum dated 18-06-2014 to the petition OP No. 9 of 2014. The Commission has considered each of them and the decisions taken thereon, which are summarized below.

(a) Tariff applicable to Libraries and Reading rooms coming under the Kerala State Library Council

8.33 Secretary, Kerala State Library Council requested to reduce the tariff applicable to libraries and reading rooms other than those of educational institutions. It is pointed out that libraries which are members of Kerala State Library Council were provided electricity at concessional rates earlier. But in the tariff order dated 30-04-2013 they were categorized under LT VI E category with steep increase in rates. As part of the policy of the Government to extend the benefits of Information Technology to the backward areas and rural areas of the State modern facilities in IT are provided in libraries. As part of the development programmes of the State Library Council, libraries are provided with computers, printers and internet connection. Computer literacy programmes are also progressing in these libraries. The public use these facilities for sending on line applications and also for getting results of various examinations. These libraries operate with a meagre annual grant of Rs.20,000, out of which Rs.15000 has to be spent for buying books. Only Rs.5000 is left for meeting all other expenses. Only a meagre amount is collected from members as monthly subscription. Since they are working as service organization there is no other income source. So they are requesting that for providing service to the public, libraries should be charged at the lowest electricity tariff possible. KSEBL proposed that considering their social objective they may be charged under domestic tariff to avail a lower rate of tariff considering the nature of service provided by libraries and reading rooms Commission categorises libraries and reading rooms other than those of educational institutions under LT VI General (E) by which such libraries and reading rooms can avail electricity at a lower tariff of Rs.2.80/Unit for the first 50 units of consumption.

(b) Dental Clinics, consulting centers run by Doctors.

8.34 As per the prevailing tariff schedule, Private hospitals, Private Clinical Laboratories are categorized under LT-VIII General tariff. Accordingly, electricity used by 'all the Dental Clinics, Consulting Centers run by Doctors are charged at LT-VIII tariff. However, offices of the advocates, chartered accountants, company secretary, consulting engineers, tax consultants, architects, cost accountants, management consultants etc are categorized under LT-VI (B) tariff. Indian Dental Association has requested that, the clinics run by Dentists are generally consultancy service and hence they may be charged under LT-VI(B) tariff only instead of LT-VIII General tariff. There is also request from the consultancy centers run by Doctors to charge under LT-VI(B) tariff. KSEBL has proposed that considering consultancy services offered by Dentists and Doctors, the consultancy centers run by 'Dentist and Doctors' may be allowed to be charged under LT-VI(B) provided their connected load of the service connection is less than or equal to 5kW. However, if the connected load of the consultancy centers run by 'Dentist and Doctors' are more than 5 kW, they may be charged only at LT-VIII tariff. It was pointed out by the Indian Dental Association that the total connected load with the minimum equipments in a Dental clinic comes to around 19 kW and hence the limit of 5kW proposed will not serve the requirement of a Dental Clinic. Commission decided to categorize them under category LT VI General (F) along with private hospitals, private clinical laboratories since the clinics run by dentists and doctors will naturally fall in the consumer class of private hospitals under the consumer category **of LT –VI General (F).**

(c) Share broking/marketing firms/stock broking

8.35 KSEBL has stated that at present, the tariff for similar activities including offices of pawn brokers are categorized under LT-VI (C). Considering the similar nature of activities of the offices of share broking/ stock broking/ marketing firms, KSEBL has proposed to include the same under LT - VI(C) category. Considering the fact that the object of supply of power to these units are commercial in nature, they have to be included under commercial category in LT and HT. Hence the above groups of consumers are categorized under LT VII (A) commercial and HT IV commercial depending upon the voltage levels at which supply of power is availed.

(d) Polyclinics under Ex-servicemen Contributory Health Scheme (ECHS)

8.36 Ex-servicemen Contributory Health Scheme (ECHS), a welfare scheme under the Ministry of Defence, Government of India, is functioning in major districts all over India. Under this scheme, polyclinics are setup wherein medical facilities are provided to the Ex-servicemen and their dependents. Since there is no specific classification for the polyclinics under ECHS, they are being charged under LT-VIII category. The officers in charge of ECHS policlinics at Kunnamkulam, Kottarakkara and Ranni have requested to treat the Polyclinics of ECHS at par with Government hospitals. KSEBL also requested to categorize them along with Government Hospitals. Commission decided to categorize them under LT-VI General (A) along with Government hospitals.

(e) Service Pensioner's offices, Consultancy centres of Astrologers, canteens of educational Institutions and Office of the Income Tax Appellate tribunal.

8.37 At present, the offices of advocates/chartered accountants/ consulting engineers/ cost accountants/architects /tax consultants and the offices and institutions under State/Central Government are categorized under LT VI (B) Tariff. KSEBL requested to include service pensioner's offices, consultancy centres of Astrologers, canteens of educations institutions and office of the income tax appellate tribunal under LT -VI (B) category. Commission decided to include offices of service pensioners Associations under LT VI General (B).In the case of consultancy centres for astrologers and canteens status quo will be maintained.

(f) Musical Fountain

8.38 At present, the tariff for cinema theatres, circus, etc., having connected load exceeding 2000W is categorized under LT VII(C). Hence KSEBL requested to include musical fountains also under LT VII(C) category. Commission decided to maintain status quo in respect of musical fountains and to charge them under the tariff category applicable to the institution where such musical fountains are maintained.

(g) Soda manufacturing units:

8.39 At present, the tariff for manufacturing/processing purposes are categorized under LT-IV(A) Industry. Hence, KSEBL request that, Soda manufacturing units may be included in LT- IV (A) tariff. Commission decided to include soda manufacturing units under LT –IV A tariff

(h) Incinerators.

8.40 At present incinerators are not included anywhere in tariff schedule. KSEBL requested before the Commission to include the same under LT IV (A) tariff. Commission decided that separate tariff is not necessary for incinerators and that electricity consumed by incinerators may be charged under the tariff category applicable to the institution which has installed such incinerators.

(i) DTP centres not having SSI registration (connected load not exceeding 1000 W):

8.41 KSEBL requested that, DTP centers not having SSI registration may be included under LT-VII(B) tariff. Commission decided to maintain status quo of categorization of DTP centers under LT IV B irrespective of such centres have SSI registration or not.

(j) Coaching centres/Tuition Centres

8.42 At present self-financing educational institutions are categorized under LT-VIII. KSEBL requested to include Coaching Centres/Tuition Centres under LT-VIII General category. Commission decided to include Coaching centre/Tuition centre under LT VI General (F) (equivalent to existing LT –VIII General) along with Self financing educational institutions.

(k) Cheenavala consumers without fish farming and Egger Nursery :

8.43 At present ornamental fish farms, prawn farms, other aqua farms, agricultural and floricultural nurseries etc are included under LT - V (B) category. KSEBL requested the Commission to include the above under LT V (B) tariff. Commission decided to include Cheenavala consumers without fish farming and Egger Nursery under LT V (B) Agriculture tariff.

(l) Ice factories

8.44 At present Ice factories at LT are categorized under LT-IV Industrial. However, there is no categorization for ice factories availing power supply at HT voltage. Hence KSEBL has requested the Commission to include ice factories at HT under HT-I Industrial category. Commission decided to include ice factories in HT under HT-I Industrial tariff.

(m) Tariff applicable to lamp posts with advertisement board maintained by private agencies.

8.45 At present the street lights maintained by local bodies including Panchayats, Municipalities and Corporations are charged under LT-IX tariff. However, it is seen that, in certain areas the lamp posts are maintained by separate agencies, who are utilizing the lamp posts for displaying advertisement etc. In such cases the lamp posts maintained by agencies other than local self government institutions (LSG) may be categorized under LT-VII(A) tariff. Commission decided to maintain status quo.

(n) Tariff applicable to television broadcasting companies

8.46 The Kerala Television Federation in its letters dated 07.07.2014 and 09.07.2014 requested to categorize them under HT-I Industrial category at par with print media. All India Radio, Doordarshan, Cable TV networks, radio stations etc., have been categorized under LT-VI General (F) and HT-II General (B) depending upon the voltage level at which power is availed by them. Accordingly the Commission has decided to categorize the television broadcasting companies under LT-VI General (F) and HT-II General (B) depending upon the voltage level at which power is availed by them.

8.47 The Commission has considered all the applications received by it for re-categorization of the consumers and has decided that no re-categorization is necessary except in the cases indicated above.

8.48 Further, in view of the orders of Hon'ble APTEL and other relevant facts, the Commission has decided to re-name the following categories of consumers as shown below;

Present category	Approved category
Low Tension –VI (LT-VI) Non Domestic	Low Tension VI - General
LT VI (A)	LT VI –General (A)
LT VI (B)	LT VI –General (B)
LT VI (C)	LT VI –General (C)
LT VI (D)	LT VI –General (D)
LT VI (E)	LT VI –General (E)
LT VIII - General	LT VI –General (F)

8.49 Similarly certain consumer classes which are presently included in the category LT VII (A) commercial have been re-categorized under LT –VI General (F) in view of the fact that the purposes for which electricity is used by them are not strictly commercial. Consumers who are engaged mainly in trading and commercial activities are brought under the category Low Tension-VII (LT-VII) Commercial which includes LT VII Commercial (A), LT VII Commercial (B) and LT VII Commercial (C). All other consumers in LT VII (A) category are brought under LT VI General (F) with a view to rationalising LT VII Commercial category.

8.50 Similar re-categorization and re-naming have been effected for High Tension (HT-II) Non Industrial / Non Commercial category also, by introducing a new category of High Tension- II-General with sub categories HT-II-General (A) and HT-II- General(B). Consumers listed in LT-VI A, LT-VI (B), LT VI (C), LT VI (D) and LT VI (E) provided power at HT are categorized under HT-II (A). Consumers listed under LT VI (F) category availing power at HT are categorised under HT-II (B).

8.51 A new category of HT –V Domestic has been introduced.

8.52 In the case of EHT consumers re-categorization is effected by re-naming the existing EHT Non Industrial (66 kV, 110 kV, 220 kV) as EHT General (66 kV, 110 kV, 220 kV) and EHT Commercial (66 kV, 110 kV, 220 kV). Indian Space Research Organisation (ISRO) and utility services such as Air Port and Educational institutions and other consumers not included in EHT industrial (66 kV, 110 kV, 220 kV) and EHT Commercial (66 kV, 110 kV, 220 kV) have been categorized in to EHT General (66 kV, 110 kV, 220 kV).

PART 2: REVISION OF RETAIL TARIFF

8.53 The Appeal against the tariff order dated 25.07.2012, of the Commission for the year 2012-13, filed by Kerala HT and EHT Industrial Electricity Consumers Association vide Appeal No. 179 of 2012 was disposed of by APTEL upholding the tariff order, but with following findings

> *"i) We find that the State Commission has determined the tariff of the Appellant's category of HT and EHT Industrial consumers within ± 20% of the average cost of supply as per the Tariff Policy, the dictum laid down by this Tribunal and as sought by the Appellant in their objections filed before the State Commission. However, we give directions to the State Commission to determine the voltage-wise cost of supply for the various categories of consumers within six months of passing of this order and take that into account in determining the cross subsidy and tariffs in future as per the dictum laid down by this Tribunal."*

8.54 As per the said findings of the Hon'ble APTEL, the Commission has to determine the voltage-wise cost of supply for the various categories of consumers within six months of passing of this order(31-05-2013) and take that into account in determining the cross subsidy and tariffs in future. The Hon'ble APTEL in Appeal no. 102 of 2010 in Tata Steel case, has given a formulation for determination of voltage-wise cost of supply in the absence of availability of detailed data.

8.55 KSEBL as per the above finding in the said judgment was directed to provide voltage wise cost of supply of KSEB for the year 2012-13, after adopting the formulation specified by the Appellate Tribunal for Electricity as detailed in the order in Appeal No. 102 of 2012 in Tata Steel case so that the Commission can finalize a methodology to be adopted for determining voltage wise cost of supply after public hearing on the proposal of KSEBL. This can be adopted as a guideline for determination of voltage wise cost of supply for tariff formulation in future by the Commission. Public hearing of the proposal was conducted on 18-03-2014. Some consumers including The Kerala HT &EHT Industrial Electricity Consumers Association have expressed doubts on the accuracy of the data used for the estimation of the cost at voltages and requested re validation of the data based on the actual data. Hence KSEB Ltd was directed to re validate the data and to resubmit the cost at voltage calculations vide letter No 59/CT/KSERC/13/1275 dated 25-11-2013.

8.56 KSEBL has submitted along with addendum to the petition dated 14.05.2014, a model for estimation of voltage wise cost of supply along with the cost at different voltage levels estimated based on the ARR/ERC petition of KSEBL for the year 2014-15 with revalidated data. The Commission generally approves in principle, the model for estimation of cost at different voltage levels based on the re-validated data submitted by KSEBL. A comparative of analysis of cost coverage using cost at different voltage levels as well as average cost of supply shall be done separately along with the orders on

Open Access charges. It is clear that if increase in tariff has to be made based on the cost at different voltage levels, (instead of average cost of supply) the cost coverage of subsidised category of consumers has to increased correspondingly within a period of five years. This will result in tariff shock to such consumers. The Commission has been effecting increase in cost coverage for subsidised category of consumers during the tariff revisions for the years 2012-13 and 2013-14 as can be seen in Table 8.4. In the tariff revision for 2014-15 also the trend continues. Hence cost coverage ratios for subsidising and subsidised consumers shall be improved further in the ensuing years also and thereafter cost at different voltage levels can be taken as the basis for improving cost coverage ratios. Commission has duly considered the voltage wise cost of supply also for determining the cross subsidy and tariffs as directed by Hon. APTEL in their order dated 25.07.2012 in the appeal against tariff order for 2012-13. But reduction of cross subsidy beyond a level is not possible now, since tariff shock also has to be avoided. The Commission has made an endeavour to strike a delicate balance among the divergent factors affecting the determination of tariff for different categories of consumers.

8.57 Commission had approved and published the Principles for Determination of Roadmap for Cross-subsidy Reduction for Distribution Licensees Regulations, 2012 on 20th November 2012. The above Regulations specify the principles of cross subsidy reductions as given below:

> *"Cross subsidy" in the context of this regulation means the difference between the applicable average tariff of that consumer category / sub category and the average Cost of Supply as approved by the Commission for that year.*
>
> *3. General* principles *for cross subsidy reduction.-The general principle for cross subsidy reduction shall be as follows:-*
>
> *(1). The average tariff of a consumer category/sub-category for the purpose of computing cross subsidy shall be determined by dividing total tariff amount billed by the sales to that consumer category/sub-category. The billed tariff shall include fixed charges, energy charge and all applicable rebates and penalties as per the tariff schedule approved by the Commission for that consumer category/sub-category.*
>
> *(2). Cost of Supply for a financial year shall be the average cost of supply computed by dividing the Aggregate Revenue Requirement of the distribution licensee approved by the Commission for recovery through retail tariffs by the total energy sales forecast for that year. This methodology of determining cost of supply shall be applicable for a period of sixty months or such extended time as decided by the Commission. Thereafter the Cost of Supply shall be differentiated for various consumer categories as per the guidelines to be notified by the Commission. Finalization of the cost of supply*

methodology and its subsequent determination by all the distribution licensees shall be done as per the provisions of these regulations and shall be used for the determination of retail tariffs.

(3). Cross subsidy based on average cost of supply.- The cost of supply computed as explained in clause (2) above shall be used for assessing the cross subsidy levels of different category of consumers. For each consumer category, ratio of the average tariff of that category to the average cost of supply shall be increased / decreased based on whether that consumer category is subsidizing consumer category or subsidized consumer category. The rate of increase / decrease of the ratio shall be decided by the Commission taking into consideration various factors including the target cross subsidy level fixed by the Commission.

(4)The rate of increase / decrease in the ratio shall be determined by the Commission and shall remain fixed for each year of the ARR/ERC or for a period decided by the Commission. The ratio for the subsidised consumer categories, shall be determined considering tariff shock to affected consumers, future increases in distribution and retail costs, changes in consumer mix, cost of alternate supplies, and shall be increased till the ratio is equal to the target value decided by the Commission. The ratio for the subsidizing consumer categories shall be reduced till the ratio is equal to the value decided by the Commission.

8.58 The Commission is bound to follow the Regulations formulated and notified by it after completing the due process. As per the Regulation Commission shall take the average cost of supply (ACoS) as the basis for tariff formulation and assessing cross subsidy levels The Commission has to ensure that when tariff of subsidized categories such as domestic, agriculture, public lighting etc are increased, tariff shock should not be inflicted upon the consumers in the subsidized categories as well. The Commission notes that the subsidizing categories in the State, in the descending order of subsidy offered by them are the commercial, non-domestic and industrial categories. Domestic, Agricultural and Public Lighting are the major subsidized categories. Among subsidising categories, cross subsidy is minimum in the case of industrial consumers in general.

8.59 Hence the Commission has taken the average cost of supply (ACoS) as the basis for tariff formulation and assessing cross subsidy levels at present. The Commission puts on record that the current tariff revision is the third comprehensive annual tariff revision in succession after the commencement of the regulatory regime in the State. Hence the Commission will strive to ensure that existing cross subsidy ranges are not enhanced. In other words, the existing level of cross subsidy provided by the subsidizing consumers will not in general, go up. At the same time the Commission will have to ensure that, the revenue gap for the current year is made good as far as possible by the tariff revision, leaving the unbridged revenue gap, if any, for appropriate consideration in due course.

8.60 The average realisation from domestic consumers in 2012, before the State Commission embarked upon a major comprehensive tariff revision, was Rs. 1.99 per units, against the average cost of supply of Rs. 4.64 per units (42%). This was increased to 60% by the Tariff order dated 25.7.2012. The average cost was again increased to 61.2% by the Tariff Revision dated 30.4.2013. The Commission is aware that the gradual reduction of cross-subsidy cannot be achieved by keeping this at lower levels. Hence the Commission in accordance with the recommendation of Kerala State Electricity Board Ltd, proposes to effect considerable increase in the cost coverage by Domestic consumers in this revision. This is inevitable to avoid the increase in cross subsidy level of subsidising consumers and to bridge at least a major portion of the revenue gap of the licensee.

8.61 At the same time the Commission is constrained to effect minor increase in cross subsidy levels of consumers who are within the $\pm$ 20% band. But their cross subsidy will be limited to the maximum level of 120%. Careful attempt has been made to ensure that the cross subsidy level of consumers with cross subsidy above 120% is not increased, as far as possible.

8.62 While approving the tariff for domestic consumers, the Commission will have to ensure that consumers who consume power beyond certain reasonable levels are not subsidized. Therefore high end domestic consumers shall not be subsidized, but they will also have to provide intra-category cross subsidy to other domestic consumers. The Commission expects such high end consumers will avoid wasteful and extravagant consumption and will also look for alternate sources of energy such as solar and wind power. Similarly while cross subsidy levels of commercial and non-domestic categories, as a whole, will not increase, high end Commercial and Non domestic consumers will be charged at higher rates to prompt them to conserve electricity in the larger interests of the society and to incentivize them to look for alternate sources of energy such as solar and wind power.

8.63 The Commission will continue to provide cheaper rates for LED and CFL lamps for public lighting so as to incentivize the Local Self Government Institutions to switch over to such energy saving modes of public lighting. The Commission believes and reiterates that such price signals against extravagant and avoidable consumption would go a long way in achieving the energy conservation and demand side management (DSM) objectives enshrined in the National Electricity Policy.

8.64 The contention made by many consumers during public hearings that, there would be no revenue gap if KSEBL has taken proper steps to recover the outstanding arrears, is not correct. KSEBL maintains its accounts on accrual basis and not on cash basis. The Commission also determines the ARR and tariff on accrual basis. Thus, the recovery of outstanding dues by KSEBL cannot be treated as income in the ARR for the year in which arrear is collected. In accrual system, the charges are recognized as income once the bills are raised. In other words , all the arrears of electricity charges of KSEBL have already been treated as income for the year in which corresponding demand was raised and the revenue gap is worked out in each year, based on the expenditure over and above such income on accrual basis. Hence the collection of arrears cannot again be reckoned as a substitute for tariff increase when the same is collected during subsequent years. Treating the realization of arrears as an income would amount to double counting of income, first when the bills are raised and the second when the arrears are realized. Therefore, the arrears shown in the accounts of the KSEBL which have already been considered as income when the bills were raised by KSEB cannot be treated as income again on realization, This point has already been clarified vide Paragraph 8.43 of the order for ARR , ERC and Tariff for the year 2013-14.

8.65 Hither to the domestic consumers with a monthly consumption of and below 40 units were given a highly subsidised tariff of Rs.1.50 / unit. It has been noticed that such concession which is targeted at the consumers in the lowest income strata is being availed by certain non-resident consumers in high income group who have availed connection to their posh residential building / flats and keep them closed except during their occasional visits. Therefore the Commission has taken a conscious decision to limit such highly subsidised supply of electricity only to the BPL consumers with connected load of and below 1000 Watts.

8.66 After carefully considering the proposals submitted by the KSEBL, the written and oral representations of the objectors, the response of KSEBL to the objections of the stake holders, and the views expressed by the members of the State Advisory Committee convened for the purpose of consultation on the tariff determination etc., the Commission approves the tariff for various categories of consumers for the period from 16.08.2014 to 31.03.2015 as specified in the schedule below:

SCHEDULE OF TARIFF AND TERMS AND CONDITIONS FOR RETAIL SUPPLY OF ELECTRICITY BY KERALA STATE ELECTRICITY BOARD LIMITED WITH EFFECT FROM 16.08.2014 to 31.03.2015

PART A - LOW TENSION (LT) TARIFF

The expression 'Low Tension Consumer' (LT) means a consumer who is supplied with electrical energy at low or medium voltage by Kerala State Electricity Board Limited and other distribution licensees in the State. The voltage limits specified for low tension supply are however subject to the variations allowed under the provisions of Kerala Electricity Supply Code, 2014.

General Conditions

1. The minimum charge payable by all LT consumers other than the consumers in the category of LT-VI (D) shall be the fixed charge of respective category. Minimum charge applicable to the category LT –VI (D) shall be as specified under the tariff for that category.

2. All LT Industrial (both LT-IV (A) and LT-IV (B) consumers) and LT Agricultural consumers shall install static capacitors with ISI certification for power factor improvement, as specified in Annexure A attached and obtain the approval of the licensee.

3. For LT industrial and agricultural consumers who have not installed capacitors with ISI certification of specified value, the fixed charge and energy charge shall be higher by 20% of the tariff applicable to the respective categories.

4. For the consumers using welding sets without installing capacitors with ISI certification of specified value, the fixed charge and energy charge shall be higher by 30% of the tariff applicable to the respective categories.

5. In the event of static capacitor becoming faulty or unserviceable, the consumer shall forthwith intimate the matter to the officer in charge of the electrical section / Sub-division of Kerala State Electricity Board Limited or to the concerned officer in the case of other distribution licensees and the consumer shall replace such faulty or unserviceable capacitors within one month or such other time limit stipulated by the concerned officer of the licensee.

6. If the capacitor is not replaced or put back into service duly repaired ~~and~~ to the satisfaction of the concerned officer of Kerala State Electricity Board Limited or of other distribution licensees as the case may be, within one month or such other time limit as stipulated by the concerned officer of the licensee, enhanced charges as per clauses 3 or 4 above shall be payable for the whole period during which the capacitor remains faulty or unserviceable.

7. The consumers, other than those in LT-IV Industry and LT-V Agriculture categories, who have segregated their power load and lighting load may install static capacitors with ISI certification for power factor improvement as specified in the Annexure A to this schedule and obtain approval of the concerned officers of Kerala State Electricity Board Limited or of other licensees as the case may be.

Such consumers other than those in LT-IV Industry and LT-V Agriculture category who install capacitors as specified above shall be eligible for a rebate at the rate of 5% on the energy charges. The rebate shall be allowed for consumption from the billing month succeeding the month in which the approval has been obtained for the capacitors installed by the consumer. No rebate is admissible on the fixed charges.

8. Power supply for common facilities such as fire control, common lighting, lifts, water pumping, sewage treatment, waste disposal, etc. in residential apartment complexes and in individual houses shall be billed at domestic tariff.
9. Power supply for common facilities in the high rise buildings for the occupation by consumers in LT-VI or in LT-VII categories shall be charged at the respective tariffs for such categories. When there is a combination of occupation of different categories of consumers, common facilities shall be charged at the highest of LT-VI or LT-VII tariff applicable to such categories.
10. Power supplies to common facilities in high rise buildings mainly for domestic occupation shall be under the domestic tariff if the connected load other than for domestic purpose, is less than 5% of the total load.
11. ToD tariff shall be applicable to LT-IV Industrial consumers having connected load of and above 20 kW and to LT-I domestic consumers (3 Phase) having monthly consumption above 500 units. The charges and other terms & conditions for ToD tariff shall be as specified in this order.

LOW TENSION – I- DOMESTIC (LT- I)

The tariff applicable to supply of electrical energy for domestic purpose (both single phase and three phase)

LOW TENSION – I- DOMESTIC (LT- I)		
Fixed charges	Single Phase: Rs.20 per consumer per month Three phase : Rs.60 per consumer per month	
Energy Charges		
Monthly Slabs	Rates	Remarks
0-40 units	150 paise per unit	This rate is applicable only to consumers belonging to below poverty line (BPL) category with connected load of and below 1000 watts.
0-50 units	280 paise per unit	Telescopic
51-100 units	320 paise per unit	
101-150 units	420 paise per unit	
151-200 units	580 paise per unit	
201-250 units	700 paise per unit	
0-300 units	500 paise per unit	Non-Telescopic
0-350 units	570 paise per unit	
0-400 units	610 paise per unit	
0-500 units	670 paise per unit	
Above 500 units	750 paise per unit	

Note: 1. Fixed charges shall not be applicable to consumers belonging to below poverty line (BPL) category with connected load of and below 1000 watts.

Note: 2. The minimum electricity charges payable during the period of disconnection shall be at the following rates:

Single phase – Rs. 20 per consumer per month

Three Phase – Rs. 60 per consumer per month

Note 3. Home stay units approved by Department of Tourism shall be billed under LT-I domestic.

Note 4. Domestic consumers shall be allowed to utilize electrical energy in a portion of their residence for their own use for purposes other than domestic if the connected load for purposes other than for domestic, in their premises does not exceed 20% of the total connected load or 1000 Watts whichever is less. When connected load other than for domestic use in such cases exceeds 20% of the total connected load or 1000 Watts whichever is less, such loads shall be segregated and separate service connection shall be obtained under appropriate tariff. When this is not done, the tariff applicable to the whole service connection shall be at the appropriate tariff applicable to the connected load used for purposes other than domestic, if such tariff is higher than the tariff for LT-I category.

LOW TENSION – II COLONIES (LT- II)

Tariff applicable to colonies of HT and EHT consumers where resale of energy is not involved and where supply at a single point is given at LT by Kerala State Electricity Board Limited or by other licensees for domestic use in staff quarters, street lighting and pumping water for domestic use, colonies of universities, colonies of State / Central Government Departments and of public institutions like companies / boards / corporations under State /Central Government, colonies of hospitals therein, colonies of Railways, Bharat Sanchar Nigam Limited (BSNL), All India Radio (AIR) and Doordarshan and private colonies.

LOW TENSION – II COLONIES (LT- II)	
Fixed Charge (Rs./Month)	2200
Energy Charge (Paise/kWh)	650

Note:- In Special cases where supply is given at more than one point each supply point shall be considered as a separate consumer for the purpose of billing.

LOW TENSION – III TEMPORARY SERVICES INCLUDING TEMPORARY CONNECTIONS AND EXTENSION (LT- III)

Low Tension – III (A) Temporary connections {LT III(A)}

Tariff applicable for single or three phase temporary connections for purposes such as illumination, exhibition, festivals, public meeting and fairs.

LT – III (A) Temporary connections	
Energy Charge (Paise/kWh)	1400
OR	
Daily minimum Rs.140 /kW or part thereof of connected load, whichever is higher	

Note: 40% concession in the rates shall be allowed if the connection is for;

(a) *exhibitions conducted by Local self Government institutions or Government educational institutions or recognized private educational institutions;*

(b) festivals of religious worship centres for illumination, public address system and security lighting. *(This concession is limited to the energy availed by the religious worship centres and not by other agencies who function in the premises of religious worship centers where festival is being organized).*

LOW TENSION – III (B) - TEMPORARY EXTENSIONS {LT III (B)}

Applicable to temporary extension taken from consumers premises

LT - III(B) Temporary extensions
Fixed charges per day - Rs.65/kW or part thereof of connected load plus the application fee, test fee etc. Energy charges shall be recovered from the consumer wherefrom extension is availed, at the tariff applicable to him.

LOW TENSION IV - INDUSTRY (LT- IV)

(a) LT- IV (A) – INDUSTRY

Tariff applicable for general purpose industrial loads (single or three phase) which include **manufacturing units**, grinding mills, flour mills, oil mills, rice mills, saw mills, ice factories, rubber smoke houses, prawn peeling units, tyre vulcanizing/retreading units, workshops using power mainly for production and/or repair, pumping water for non- agricultural purpose, public waterworks, sewage pumping, power laundries, screen printing of glass ware or ceramic, printing presses including presses engaged in printing dailies, bakeries (where manufacturing process and sales are carried out in the same premises) diamond-cutting units, stone crushing units, book binding units with allied activities, garment making units, SSI units engaged in computerized colour photo printing, audio/video cassette/CD manufacturing units, seafood processing units, granite cutting units (where boulders are cut into sheets in the same premises), cardamom drying and curing units, and units carrying out extraction of oil in addition to the filtering and packing activities carrying out in the same premise under the same service connection, manufacturing rubber sheets from latex, telemetry stations of KWA, dairy, processing of milk by pasteurization and its storage and packing, soda manufacturing units, plantations of cash crops, all non-agricultural pumping, drinking water pumping for public by Kerala Water Authority, corporations, municipalities and panchayats, electric crematoria, pyrolators installed by local bodies.

LT - IV (A) INDUSTRY	
(a) Fixed Charge	
(i) Connected load of and below 10 kW (Rs. per consumer per month)	100
(ii) Connected load above 10kW (Rs. per kW or part thereof per month)	60
(iii) Connected load above 20 kW (Rs. per kVA or part thereof per month)	125
(b) Energy Charge (Paise/kWh)	520

Note: 1.- Workshops with automobile service stations shall segregate the workshop load for availing the benefit of industrial tariff. If loads are not segregated the charges shall be realized at the rates applicable to automobile service stations.

Note : 2.- General conditions relating to installation of capacitors will apply.

LOW TENSION – IV (B) – IT and IT Enabled Services. {LT IV (B)}

Tariff applicable to Information Technology (IT) and IT enabled services including Akshaya-e-centres, computer consultancy services units, software services, data processing activities, desktop publishing (DTP), software development units and such other IT enabled services, but excluding call centers.

LT - IV (B) IT and IT Enabled Services	
(a) Fixed Charge	
(i) Connected load of and below 10kW (Rs. per consumer per month)	100
(ii) Connected load above 10 kW (Rs. per kW or part thereof per month)	60
(iii) Connected load above 20 kW (Rs. per kVA or part thereof per month	125
(b) Energy Charge (Paise/kWh)	580

Note: General conditions relating to installation of capacitors will apply.

LOW TENSION - V- AGRICULTURE (A) {LT- V (A)}

(a) LT- V (A) AGRICULTURE

Tariff applicable to agricultural purpose using electricity for pumping, dewatering and lift irrigation for cultivation of food crops such as cereals, pulses, vegetables and fruits

LT - V (A)- Agriculture	
Fixed Charge Rs. per kW or part thereof per Month	8
Energy Charge (Paise/kWh)	200

Note: - General conditions relating to installation of capacitors will apply.

(b) Low Tension – V - Agriculture (B) {LT -V (B)}

Tariff applicable to agricultural purposes such as poultry farms, silk worm breeding units, livestock farms, combination of livestock farms with dairy, Aquaculture, floriculture, tissue culture, sericulture and mushroom culture, fish farms including ornamental fish farms, prawn farms ,other aqua farms, rabbit farms, piggery farms, agricultural and floricultural nurseries, hatcheries, cheenavala consumers without fish farming and egger nurseries.

LT - V (B)- Agriculture	
Fixed Charge Rs. per kW or part thereof per Month	8
Energy Charge (Paise/kWh)	250

Note: General conditions relating to installation of capacitors will apply.

LOW TENSION –VI GENERAL (A) {LT- VI (A)}

Tariff applicable to government or aided educational institutions; libraries and reading rooms of government or aided educational institutions; Government hospitals; X-Ray units, laboratories, blood banks, mortuaries and such other units attached to the government hospitals; blood banks of IMA or of local self Government Institutions; private hospitals and charitable institutions registered under Travancore - Cochin Literary, Scientific and Charitable Societies Registration Act, 1955, the donations to which are exempted from payment of Income Tax; premises of religious worship; institutions imparting religious education and convents; poly clinics under Ex-servicemen Contributory Health Scheme (ECHS).

LT - VI GENERAL (A)	
(a) Fixed Charge (Rs. per kW or part thereof per Month)	50
(b) Energy Charge (Paise/kWh) (i) Of and Below 500 kWh (ii) Above 500 kWh	 550 630

LT- VI GENERAL (B)

The tariff applicable to offices and institutions under State or Central Government or Local Self Government; Corporations; Boards under State or Central Government; Kerala Water Authority (KWA); Kerala State Road Transport Corporation (KSRTC); Kerala State Water Transport Corporation (KSWTC); hostels of educational institutions affiliated to Universities or under the control of the Director of Technical Education or Director of Medical Education or Director of Public Instruction or such other offices of government; hostels run by the State or Central Government; hostels run by State Social Welfare Board; hostels run by institutions that are registered under Cultural, Scientific and Charitable Societies Act, the donations to which are exempted from payment of Income Tax; village offices;

Government Treasuries; Pay wards and institutions of Kerala Health Research and Welfare Society (KHRWS); travelers bungalows, rest houses and guest houses under government; type writing institutes; offices of advocates or chartered accountants or company secretary or consulting engineers or tax consultants or architects or cost accountants or of management consultants; social organizations; museum and / or zoo; offices of political parties not approved by the Election Commission of India; collection centres of 'FRIENDS'; single window service centres under Department of Information Technology; all post offices including extra departmental (ED) post offices; micro financing institutions registered and functioning as per the guidelines issued by Reserve Bank of India; Police Clubs, cameras at traffic signal points; offices of service pensioners' associations.

LT - VI GENERAL (B)	
(a) Fixed Charge (Rs. per kW or part thereof per Month)	70
(b) Energy Charge (Paise/kWh) Of and below 500 kWh Above 500 kWh	 630 700

LT- VI GENERAL (C)

Tariff applicable to offices or institutions under Income Tax or Central Excise and Customs Departments, offices under Motor Vehicles Department or Sales Tax department or Excise Department; offices of all other tax earning departments under State or Central Government (other than Local Self Government Institutions); Offices of Department of Posts excluding post offices and ED post offices; light houses; pawn brokers; banking and / or financing institutions (excluding micro financing institutions registered and functioning as per the guidelines issued by Reserve Bank of India); ATM counters; offices of Railways including railway stations; offices of Airport Authority of India except airport; offices of Sub-Registrars; and any other LT categories not included in this schedule.

LT - VI GENERAL (C)	
(a) Fixed Charge (Rs. per kW or part thereof per Month)	180
(b) Energy Charge (Paise/kWh) (i) Of and below 500 kWh (ii)Above 500 kWh	 700 850

LT- VI GENERAL (D)

Tariff applicable to orphanages; anganwadis; schools and hostels for differentially abled or physically challenged persons (including mentally retarded students, deaf/dumb/blind/physically handicapped persons), old age homes, Cheshire homes; SoS Childrens' Villages; polio homes; cancer and / or palliative care centres; HIV rehabilitation centres; charitable hospital guidance centres registered under the Travancore - Cochin Literary, Scientific and Charitable Societies Registration Act, 1955, donations to which are exempted from Income Tax and other similar charitable institutions recognized by the Government; shelters exclusively for orphaned animals and birds run by charitable institutions registered under the Travancore - Cochin Literary, Scientific and Charitable Societies Registration Act, 1955.

LT - VI GENERAL (D)	
(a) Fixed Charge	Nil
(b) Energy Charge (Paise/kWh)	**180**

The minimum charge payable, including during the period of disconnection, shall be:

Single phase – Rs. 15 per consumer per month
Three Phase – Rs. 25 per consumer per month

LT VI GENERAL (E)

Tariff applicable to sports and / or arts clubs (with connected load not exceeding 2000 W);; sailing and / or swimming clubs (with connected load not exceeding 2000 W);; gymnasium (with connected load not exceeding 2000 W); libraries and reading rooms other than those of educational institutions; press clubs; offices of political parties approved by Election Commission of India; e-toilet and public comfort stations and the following water supply schemes solely for domestic purposes namely:

(i) water supply schemes under Jalanidhi, Jaladhara or Swajaladhara Projects;
(ii) water supply schemes coming under water supply societies or under beneficiary committees;
(iii) water supply schemes for Scheduled Caste (SC) and / or Scheduled Tribe (ST);
(iv) water supply schemes for Laksham Veedu Settlements taken over and managed by Local Self Government Institutions;
(v) social drinking water supply schemes established using local area development funds of Members of Legislative Assembly (MLA) and / or Members of Parliament (MP);
(vi) social drinking water supply schemes established using funds of Local Self Government Institutions;
(vii) social drinking water supply schemes under Peoples Participatory Schemes (PPS);
(viii) Rajeev Gandhi Drinking Water Schemes managed by beneficiary groups.

LT VI GENERAL (E)		
(a) Fixed charges (Rs. per consumer per month) (i) Single phase (ii) Three phase		20 60
(b) Energy Charges		
Monthly Consumption Slabs	Rates (paise per kWh)	Remarks
(i) of and below 50 units	280	Non-telescopic
(ii) of and below 120 units	**380**	
(iii) of and below 200 units	450	
(iv) Above 200 units	630	

Note: 1.- The method for billing for the above mentioned water supply schemes solely for domestic purpose shall be as specified hereunder. The total monthly consumption of electricity for the water supply to all the beneficiaries in the group shall be divided by the number of beneficiary households and the demand for electricity charges payable by individual household shall be prepared based on the average monthly consumption per household applying the above tariff.

Note: 2.- Anganwadies, if any, availing drinking water from the above water supply schemes shall also be considered as a beneficiary availing the water supply for domestic purpose and the benefit of the scheme can be extended to them.

LT VI GENERAL (F)

Private hospitals, private clinics, private clinical laboratories, private X-ray units, private mortuaries, private blood banks, private scanning centers, computer training institutes, self- financing educational institutions (including hostels), private coaching or tuition centres, cinema studios, Audio/video cassette recording/duplication units, CD recording units, all construction works, installations of cellular mobile communications, satellite communications, offices and / or exchanges of telecom companies, offices or institutions of All India Radio (AIR), offices or institutions of Doordarshan and other Television broadcasting companies, cable TV networks, radio stations, insurance companies, call centers, cinema dubbing and animation studios, hall marking centres.

LT VI GENERAL (F)	
Fixed charge (Rs/ kW per month)	
Single Phase	60
Three phase	120
Energy Charge (paise per unit)	
0 to 100 units per month	580
0 to 200 units per month	650
0 to 300 units per month	720
0 to 500 units per month	780
above 500 units per month	900

LOW TENSION - VII – COMMERCIAL (A) {LT- VII (A)}

Tariff for commercial consumers such as shops**,** other commercial establishments for trading, showrooms, display outlets, business houses, hotels and restaurants (having connected load exceeding 1000 W), private lodges, private hostels, private guest houses, private rest houses, private travelers bungalows, freezing plants, cold storages, milk chilling plants, bakeries (without manufacturing process), petrol/diesel/ LPG /CNG bunks, automobile service stations, computerized wheel alignment centres, marble and granite cutting units, LPG bottling plants, house boats, units carrying out filtering and packing and other associated activities using extracted oil brought from outside, share broking firms, stock broking firms, marketing firms.

LT VII Commercial (A)		
(a) Fixed charge (Rs/ kW per month)		
(i) Single Phase	60	
(ii) Three phase	120	
(b) Energy Charge (paise per unit)		
(i) Of and below 100 units per month	600	Non-telescopic
(ii) Of and below 200 units per month	670	
(iii) Of and below 300 units per month	740	
(iv) Of and below 500 units per month	800	
(v) Above 500 units per month	930	

LT- VII COMMERCIAL (B)

Tariff applicable to commercial consumers such as shops, bunks, hotels, restaurants, telephone / fax / e-mail / photocopy booths and internet cafes having connected load of and below 1000 Watts.

When connected load of the above mentioned consumers exceeds 1000 Watts, such consumers shall be charged under LT -VII (A) tariff. If monthly consumption of LT- VII (B) consumers having connected load of and below 1000 Watts, exceeds 300 units, the energy charges shall be realized at the rate of energy charges applicable to LT -VII (A) consumers.

LT - VII Commercial (B)		
(a) Fixed Charge (Rs. per kW or part thereof) Month	40	
(b) Energy Charge (Paise/kWh)		Non-telescopic
(i) 0 to 100 units	470	
(ii) 0 to 200 units	570	
(iii) 0 to 300 units	630	

LT- VII COMMERCIAL (C)

Tariff applicable to cinema theatres; circus; sports and arts clubs, sailing or swimming clubs and gymnasium having connected load exceeding 2000W.

LT - VII Commercial (C)		
(a) Fixed Charge (Rs. per kW or part thereof) Month	90	
(b) Energy Charge (Paise/kWh)		Non-telescopic
(i) Of and below 1000 kWh	590	
(ii) Above 1000 kWh	730	

LOW TENSION – VIII PUBLIC LIGHTING (LT- VIII)

LT – VIII (A) Unmetered street lights {LT VIII (A)}

Tariff applicable to various categories of unmetered public lighting per lamp .

LT – VIII (A) – Composite Tariff for Unmetered Street Lights				
TYPE OF LAMP		Rs/Lamp/Month		
		Burning Hours per day		
	Watts (W)	4 Hours	6 Hours	12 Hours
Ordinary	40	20	31	61
Ordinary	60	31	46	94
Ordinary	100	51	78	155
Fluo tube	40	20	31	61
Fluo tube	80	41	61	124
Floodlight	1000	518	776	1553
MV Lamp	80	47	65	132
MV Lamp	125	69	104	206
MV Lamp	160	89	132	265
MV Lamp	250	138	206	414
MV Lamp	400	221	330	661
SV Lamp	70	39	59	116
SV Lamp	80	44	65	132
SV Lamp	100	55	82	165
SV Lamp	125	69	104	206
SV Lamp	150	82	124	247
SV Lamp	250	138	206	414
CFL	11	2	3	7
CFL	22	5	7	14
CFL	44	9	14	28
CFL	18	3	6	12
CFL	36	7	12	22
CFL	72	15	22	45
CFL	15	3	5	9
CFL	30	6	9	18
CFL	36	7	12	22
CFL	72	15	22	45
CFL	144	30	45	90
LED	18	3	6	12
MV Lamp on semi high mast only for 12 hrs burning per day	1200	0	0	1982
SV Lamp on semi high mast only for 12 hrs burning per day	250	0	0	414

LT – VIII (B) METERED STREET LIGHTS AND TRAFIC SIGNAL LIGHTS {LT-VIII (B)}

Tariff applicable for metered street lights and tariff signal lights.

LT – VIII (B) Tariff for Metered Street Lights and Trafic Signal Lights	
(a) Fixed charge (Rs/ meter/month)	30
(b) Energy Charge (paise per unit)	360

Note: 1.- When public lighting is to be done after extension of lines, the beneficiaries shall pay the cost of the work as per the cost data approved by the Commission.

Note: 2.- In campuses where lines and lights are provided by the beneficiary, LT metered supply shall be provided at 360 paise /kWh plus fixed charge of Rs.30 per meter per month subject to other conditions regarding the payment of cost of the work.

Note: 3.- Supply to light houses when taken from the street mains of Kerala State Electricity Board Limited or any other licensee will be charged at appropriate public lighting tariff. Where metered independent supply is provided at low tension, the rate applicable will be 360 paise/kWh plus fixed charge at Rs.30 per meter per month and subject to other conditions regarding payment of cost of the work.

Note: 4.- In areas where low tension distribution lines of Kerala State Electricity Board Limited and other licensees exist, metered supply shall be given by the respective licensee for special type of lamps, for which the rates are not given in the table above, provided the lamps are installed and maintained by the local bodies at their cost. The tariff applicable in such cases shall be 360 paise per unit plus fixed charge at Rs 30/- per meter per month, subject to other conditions regarding payment of cost of the work.

Note: 5.- Separate charges shall not be collected from the consumers towards service charges for street lighting.
Note: 6.- Electricity duty is not payable for public lighting as per the provisions of Kerala Electricity Duty Act, 1963.

LT IX : DISPLAY LIGHTING AND HOARDINGS

Tariff applicable to display lighting, hoarding, external illumination of buildings for publicity and sales- promotion purposes.

LT - IX Display Lighting and Hoardings	
(a) Fixed Charge (Rs. per Connection per month)	500
(b) Energy Charge (Paise per unit)	1250

Note: The electricity used for the purposes of displaying the name, address, working time and such essential details of commercial, industrial or other category of consumers is allowed to be charged at same tariff applicable to the category to which such consumers belong.

PART B – HIGH TENSION (HT) AND EXTRA HIGH TENSION (EHT) TARIFF

General conditions for HT and EHT tariff

1. For the purpose of conversion from kVA to kW or vice versa, an average power factor of 0.9 shall be taken.
2. Billing demand shall be the recorded maximum demand for the month in kVA or 75% of the contract demand (as per the agreement) whichever is higher.
3. When the recorded maximum demand during normal period and peak period in a month exceeds the contract demand as per the agreement and the recorded maximum demand during off-peak hours exceed 130% of the contract demand, the excess demand shall be charged at a rate of 150 percent of the demand charges applicable.
4. As per Sec 55 of the Electricity Act, 2003 and provisions of the Central Electricity Authority (Installation and Operation of meters) Regulations 2006, consumer meter shall generally be installed and owned by the licensee. Even if the consumer elects to purchase the meter as stipulated in proviso under sub section 1 of section-55 of the Electricity Act, 2003, such meter shall be tested, calibrated, sealed, installed, operated and maintained by the licensee as provided in the said regulations. The consumer has to purchase only such meters which are included in the list of makes and models of meters which has to be provided by the licensee, as stipulated in clause (c) of sub-regulation (2) of regulation 6, of The Central Electricity Authority (Installation and Operation of meters) Regulations 2006. If any existing consumer, having elected to purchase and supply the meter for replacement of the defective meter in his premises, fails to do so within two months, such consumer will be charged 50% extra over

the prevailing rates applicable to him for both demand and energy, from the date of expiry of the two months period fixed for purchase and supply of meter, till the date on which meter is purchased and supplied by the consumer to the licensee.

5. All EHT consumers (except Railway Traction) and all HT/Deemed HT consumers (except cinema theatres, drinking water supply pumping stations of Kerala Water Authority, Corporations, Municipalities and Panchayats) shall be billed on ToD tariff as specified in this order.

6. The monthly minimum charge payable shall be the minimum guarantee amount as per minimum guarantee agreement, if any, or the billing demand as per condition 2 above, whichever is higher. This applies even during the period of disconnection of power supply.

7. In the case of factory lighting and colony supply of HT /EHT (Industrial) consumers, the applicable tariff shall be subject to the following conditions:

   a. Factory lighting – When the total connected lighting load of the factory is less than or equal to 5% of the connected load for power, it can be tapped off from the power mains without segregation. When the above lighting load exceeds this limit of 5%, the whole lighting load should be segregated and metered by a sub-meter and lighting consumption in excess over 10% of the bulk supply consumption for power, shall be charged at 20 paise extra per kWh for HT and 10 paise extra per kWh for EHT consumers.

   b. Colony Supply: Colony supply, when availed from the HT / EHT supply of the consumer, such supply shall be segregated and metered by means of a sub-meter and the consumption will be charged at 20 paise extra per kWh for HT and 10 paise extra per kWh for EHT consumers.

   c. If no segregation is made as specified in clauses (a) or (b) above, the bill amount of the consumer shall be increased for demand and energy charges by 10% for both HT and EHT consumers.

8. Power factor incentives/penalties as specified in this order shall be applicable to all HT and EHT consumers.
9. In the case of Deemed HT Consumers, the tariff applicable shall be demand charges of respective HT category and energy charge of respective LT category.

TARIFF FOR HIGH TENSION (HT) CONSUMERS

This tariff shall be applicable to all high tension consumers to whom the Kerala State Electricity Board Limited or other licensees has undertaken or undertakes to supply energy. The expression 'high tension' (HT) consumer means a consumer who is supplied with electrical energy at a voltage of 33,000 Volts, 22,000 Volts or 11,000 Volts under normal conditions, subject however to, the variation indicated in the agreement with the Kerala State Electricity Board Limited or other licensees or the variation allowed under the Kerala Electricity Supply Code, 2014.

HIGH TENSION- I - INDUSTRY (A) {HT- I (A)}

Tariff applicable to general purpose industrial load of all classes of consumers listed in LT-IV (A) category availing supply of electricity at high tension.

HIGH TENSION- I - INDUSTRY (A)	
(a) Demand Charge (Rs./kVA of Billing Demand/Month)	300
(b) Energy Charge (Paise/kWh)	520

HIGH TENSION-I - IT and IT Enabled Services {HT – I (B)}

Tariff applicable to of all classes of consumers listed in LT-IV (B) category availing supply of electricity at high tension.

HIGH TENSION-I - IT and IT Enabled Services	
(a) Demand Charge (Rs./kVA of Billing Demand/Month)	300
(b) Energy Charge (Paise/kWh)	560

HIGH TENSION - II - GENERAL (A) {HT – II (A)}

Tariff applicable to all classes of consumers listed in LT-VI (A), LT-VI (B), LT-VI (C), and LT-VI (E) categories availing supply of electricity at high tension.

HIGH TENSION - II - GENERAL (A)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	350
(b) Energy Charge (Paise/kWh)	510

HIGH TENSION – II - GENERAL (B) {HT –II (B)}

Tariff applicable to all classes of consumers listed in LT-VI (F) category availing supply of electricity at high tension.

HIGH TENSION – II - GENERAL (B)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	400
(b) Energy Charge (Paise/kWh)	
(i) Of and below 30,000 units	620
(ii) Above 30,000 units	720

HIGH TENSION –III AGRICULTURE (A) –{HT – III (A)}

Tariff applicable to the classes of agricultural consumers listed in LT-V (A) category, availing supply of electricity at high tension.

HIGH TENSION –III AGRICULTURE	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	170
(b) Energy Charge (Paise/kWh)	280

HIGH TENSION - III AGRICULTURE (B) – (HT – III (B))

Tariff applicable to classes of agricultural consumers listed in LT-V (B) category, availing supply of electricity at high tension.

HIGH TENSION - III AGRICULTURE (B)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	170
(b) Energy Charge (Paise/kWh)	330

HIGH TENSION – IV COMMERCIAL (HT – IV)

Tariff applicable to all classes of commercial consumers listed in LT-VII (A) and LT-VII (C) categories availing supply of electricity at high tension.

HIGH TENSION – IV COMMERCIAL (HT – IV)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	400
(b) Energy Charge (Paise/kWh)	
(i) Of and below 30,000 units (All units)	630
(ii) Above 30,000 units (All units)	730

HIGH TENSION – V DOMESTIC (HT – V)

Tariff applicable to domestic consumers and colonies availing supply of electricity at high tension.

HIGH TENSION – V DOMESTIC (HT – V)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	350
(b) Energy Charge (Paise/kWh)	550

Note: The HT domestic connection shall be effected subject to the following conditions:

1. *The connections provided shall be for domestic use only.*
2. *The consumer shall not resell the power supplied to the occupants inside or outside the premises to which HT connection is provided .*
3. *If the apartment /flat/ room is rented out or made use of for any other purpose, he shall take individual LT connection at his cost. Appropriate LT tariff shall apply in such cases, based on the purpose of electricity usage. The consumer shall maintain the transformer and allied equipment at his cost in such cases.*

HIGH TENSION –VI -SEASONAL CONSUMERS (HT – VI)

1. HT consumers with seasonal load shall register themselves with the Kerala State Electricity Board Limited or other licensees as seasonal consumers for the purpose for which electricity is used. They shall be billed under appropriate tariff applicable to the category to which they belong, for the period of use.

2. For registration as a seasonal consumer, the consumer should have a minimum of four working months per annum or he should guarantee a minimum equivalent thereto for the working season.

3. If a consumer registered with the Kerala State Electricity Board Limited or other licensees as a seasonal consumer, specifies the uses of electricity for different purposes during different seasons and also specifies the period of usage for each such purpose, then the consumer shall billed under appropriate tariff for each purpose during different seasons separately.

4. If a registered seasonal consumer using electricity for different purposes without specifying the purposes and the period of usage, then the consumer shall be charged at the highest tariff applicable to the different uses, for the various operations for the whole year.

5. The conditions for lighting for seasonal industrial consumers shall be the same as applicable in the case of HT-I.

6. If a registered seasonal consumer opts for disconnection of supply during the period other than the period of usage (specified seasonal usage), then he shall pay higher demand charges during the working season as below:

   (a) Demand charges shall be increased by 5(12-N) % where 'N' is the number of months during which the consumer registers himself with the Kerala State Electricity Board Limited or other licensees to utilize the service in the year.
   (b) There will be no billing for the idling period.
   (c) The service to the consumer will be disconnected without notice immediately on termination of the registered period unless the consumer asks for continuance of the service during the idle period for which also he will be charged at the same seasonal rate applicable for the original period.
   (d) Monthly minimum charge equivalent to demand charges for 75% of the contract demand increased as per (a) above shall be collected from the consumer in each working month.

EXTRA HIGH TENSION (EHT) TARIFF

This tariff shall be applicable to all Extra High Tension consumers. The expression Extra High Tension (EHT) consumer means a consumer who is supplied with electrical energy at a voltage exceeding 33000 Volts under normal conditions subject however to, the variation indicated in the agreement with the Kerala State Electricity Board Limited or other licensees or allowed under the Kerala Electricity Supply Code, 2014.

EXTRA HIGH TENSION (EHT) INDUSTRIAL

EHT Industrial (66 kV)

Tariff applicable to general purpose industrial load at 66 KV.

EHT Industrial (66 kV)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	300
(b) Energy Charge (Paise/kWh)	490

EHT Industrial (110 kV)

Tariff applicable to general purpose industrial load at 110 KV.

EHT Industrial (110 kV)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	290
(b) Energy Charge (Paise/kWh)	480

EHT Industrial (220 kV)

Tariff applicable to general purpose industrial load at 220 KV.

EHT Industrial (220 kV)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	280
(b) Energy Charge (Paise/kWh)	470

EHT COMMERCIAL (66 kV, 110 kV, 220kV)

Tariff applicable to commercial institutions availing power at EHT.

EHT Commercial (66 kV, 110 kV, 220kV)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	400
(b) Energy Charge (Paise/kWh)	
(i) Of and below 60,000 units	610
(ii) Above 60,000 units	710

EHT GENERAL (66 kV, 110 kV, 220kV)

Tariff applicable to Indian Space Research Organisation (ISRO), utility services such as Airport, Self Financing Educational Institutions and other consumers not included in EHT Industry and EHT Commercial categories.

EHT General (66 kV, 110 kV, 220kV)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	370
(b) Energy Charge (Paise/kWh)	
(i) Of and below 60,000 units	580
(ii) Above 60,000 units	680

RAILWAY TRACTION (110 kV)

Tariff applicable to Railway Traction

Railway Traction (110 kV)	
(a) Demand Charges (Rs./kVA of Billing Demand/Month)	250
(b) Energy Charge (Paise/kWh)	480

PART- 3 TIME OF DAY (ToD) TARIFF AND OTHER CHARGES

ToD Tariff applicable to EHT, HT and LT industrial consumers (with connected load of and above 20KW) Consumers

The ToD tariff applicable to EHT, HT and LT industrial consumers (with connected load of and above 20 kW) for energy consumption with effect from 16.08.2014 is given below:

	Rates (% of Ruling Charges)		
	Normal period (6:00 hrs to 18:00 hrs)	Peak period (18:00 hrs to 22:00 Hrs)	Off peak (22:00 hrs to 6:00 hrs)
Energy Charges	100%	150%	75%

Billing of the demand charges:

Monthly Demand Charge shall be:

Billing Demand during the month x Ruling Demand Charge per kVA

Billing of Energy charges:

The billing of the energy charge for HT&EHT consumers shall be done as follows

a) Normal time: *Consumption during normal time x ruling energy rate / unit.*

b) Peak time: *Consumption during peak time x ruling energy rate / unit x 1.50*

c) Off-peak time: Consumption during off-peak time x ruling energy rate/unit x 0.75

Total energy charge during a month = (a) + (b) + (c)

Other conditions:

- Ruling demand/energy charges shall be the demand/energy charges for normal period as per the tariff approved in this order.

- Ruling demand/energy charges for LT industrial consumers with a connected load of and above 20KW, shall be as per the tariff approved in this order.

- Demand charges during a particular month shall be assessed based on the recorded maximum demand during that month or 75% of the contract demand whichever is higher.

- Excess demand charges: Additional demand charges shall be levied if the recorded maximum demand exceeds the contract demand during normal period and peak period, which shall be charged at 50% extra for the excess over the contract demand (ie., additional demand during normal/peak period x ruling demand charges x 0.5). Additional demand charges during off-peak period shall be levied only if the recorded maximum demand during off peak period is in excess of 130% of the contract demand.

- For the consumption of electricity during normal period ie 6.00 hours to 18.00 hours the demand/energy charges shall be at the notified rates applicable to the consumer category.

ToD Tariff for Domestic Consumers

Applicable to domestic consumers who consume more than 500 Units / month.

	Normal Period (6 hrs to 18 hrs)	Peak Period (18 hrs to 22 hrs)	Off Peak Period (22hrs to 06 hrs)
Charges for consumption above 500 Units/Month	100% of the ruling tariff	120% of the ruling tariff	90% of the ruling tariff

Note

1. The above rates shall be effective from 16.08.2014
2. Six months consumption shall be monitored from normal bi-monthly readings during January / February and July / August every year. If the average monthly consumption for first or second half of the year is above 500 Units, the consumer will be brought under ToD system after installing ToD meter in the premises.
3. ToD based billing will be done whenever the monthly consumption exceeds 500 Units. If the consumption falls below 500 Units/month in any month, slab based billing shall be followed.

Power factor incentive / disincentive

The following incentive and disincentive shall be applicable to LT industrial consumers with a connected load of and above 20 kW, HT&EHT Consumers for power factor improvement.

Power factor range	**Incentive**
Power factor between 0.9 to 1.00	0.25% of energy charges for each 0.01 unit increase in power factor from 0.9
Power factor range	**Disincentive**
Power factor below 0.90	1% energy charge for every 0.01 fall in power factor from 0.90

OPTIONAL DEMAND BASED TARIFF

Eligibility : Optional Scheme for LT VI General (A), LT VI General (B), LT VI General (C), LT VI General (E), LT VI General (F), LT-VII Commercial (A) and LT VII Commercial (C) having connected load equal or above 20 kW.

Billing demand : Recorded maximum demand or 75% of the contract demand whichever is higher

Demand charges: Based on Rs./kVA of billing demand as per tariff mentioned in the table below.

Consumer Categories	*Tariff*
	Rs./kVA of billing demand per month
LT VI General (A), LT VI General (B), LT VI General (C), LT VI General (E), LT VI General (F), LT-VII Commercial (A) and LT VII Commercial (C)	*180*

Energy Charges: Existing energy charges of respective categories shall apply.

Other conditions

- The tariff shall be effective from 16.08.2014
- Consumers who opt for maximum demand based tariff have to install ToD compliant meters at their cost. Meters may be arranged by KSEB or the Consumers. If the consumers provide meters, it has to be got tested at KSEB's lab or at Electrical Inspectorate. It will be the responsibility of KSEB to ensure the accuracy of the meters after proper testing.
- For those who opt for maximum demand based tariff, the contract demand shall be treated as connected load.
- The consumers who opt for maximum demand based tariff shall declare the contract demand in kVA by executing a supplementary agreement showing the contract demand and details of connected load in their premises.
- The consumers who opt for the new system may be allowed to revise upwards or downwards the declared contract demand within six months from the date of option without any conditions or charges. After this, the usual terms and conditions shall be applicable for changing contract demand.
- The Billing demand shall be the recorded maximum demand or 75% of the contract demand which ever is higher. In case the billing demand exceeds the contract demand, excess demand shall be charged 50% extra.
- The above scheme (optional demand based tariff) shall be effective till ToD tariff is made compulsory.

BULK SUPPLY TARIFF, OPEN ACCESS CHARGES, INCENTIVE FOR SOLAR POWER AND SUCH OTHER CHARGES

The rates and methods of billing as approved by the Commission in its order dated 30.04.2013 in OP No. 2/2013 and as notified on 09.09.2013 in Kerala Government Gazette Extra Ordinary will continue until further orders in respect of the following:

(i) Bulk Supply Tariff
(ii) Transmission Charge
(iii) Wheeling Charge
(iv) Cross Subsidy Surcharge
(v) Standby Charges

The Commission will issue separate orders on Bulk Supply Tariff and the other charges mentioned above. It is clarified that the order revising the bulk supply tariff will have effect from 16.08.2014.

The Commission will issue separate orders on tariff for single point supply, high voltage rebate and low voltage surcharge separately. The Commission will also issue separate orders on meter rent, pooled cost of power purchase and incentive for off-grid solar power generation.

Annexure- A

Recommended values of Static capacitor in kVAR for power factor improvements

A. Induction Motors (LT)

Sl.No.	Total Motor Rating (HP)	KVAR rating of capacitors insisted	Sl.No.	Total Motor Rating (HP)	KVAR rating of capacitors insisted
1	Upto 3	1	8	Above 25 up to 30	10
2	Above 3 up to 5	2	9	Above 30 up to 40	12
3	Above 5 up to 7.5	3	10	Above 40 up to 50	14
4	Above 7.5 up to 10	4	11	Above 50 up to 60	18
5	Above 10 up to 15	5	12	Above 60 up to 80	22
6	Above 15 up to 20	6	13	Above 80 up to 100	25
7	Above 20 up to 25	7.5	14	Above100 up to 130	35

B. WELDING TRANSFORMERS (LT)

Sl.No.	Rating of welding trans-formers in KVA	KVAR rating of capacitors insisted	Sl.No.	Rating of welding trans-formers in KVA	KVAR rating of capacitors insisted
1	1	1	16	16	12
2	2	2	17	17	13
3	3	2	18	18	13
4	4	3	19	19	14
5	5	4	20	20	15
6	6	4	21	Above 20 up to 22	16
7	7	5	22	Above 22 up to2 4	17.5
8	8	6	23	Above 24 up to 26	18
9	9	7.5	24	Above 26 up to 28	20
10	10	7.5	25	Above 28 up to 30	21
11	11	8	26	Above 30 up to 35	24
12	12	9	27	Above 35 up to 40	27.5
13	13	10	28	Above 40 up to 45	32.5
14	14	10	29	Above 45 up to 50	35
15	15	11			

Summary of Tariff Revision

8.67 It may be noted that as mentioned elsewhere in the order the Commission has re-categorised several consumer categories especially LT VI / LTVII and HT II/HTIV. Accordingly, many consumers in the erstwhile LT VII category are being shifted to LT VI general category, as requested by large number of consumers. Further erstwhile LTVIII category has been included as part of LT VI general. Similar changes have been made in the HT categories also. In view of the re-categorisation, the estimation of cross subsidy for these class of consumers is difficult and also a comparison with the previous year is also not possible since the number of consumers and sales in the recategorised sections are not readily available. Hence the Commission is not in a position to estimate the cross subsidy for the said categories. This is the case with estimate of revenue also from revised tariffs in these categories. However, this can be done in the subsequent years or as and when reasonable level of data is available. However, it can be seen that the average cost of supply in 2013-14 was Rs.5.04 paise unit, which is now increased to Rs.5.28 per unit showing an increase of 24 paise per unit. The Commission in this order has revised tariff for erstwhile HT IV and HTV categories by 20 pasie only leaving the fixed charges untouched. Thus such consumers will only have to bear a portion of the increase in cost of supply. Similarly, in the case of the consumers who have been re-categorised from LTVII Commercial to LT VI general, the pre-revised tariff of commercial category is generally maintained. Hence these consumers will also not experience any tariff increase. Accordingly, the Commission has tried to balance the interests of the subsidizing consumers to a large extent.

8.68 Based on the above, with the available information, average tariff increase, additional revenue realisation and the cross subsidization, on an yearly basis are worked out as shown below:

Table 8.3
Proposed and Approved Revenue after Tariff Revision

		Existing Tariff	As per the Tariff proposed by KSEBL			Approved Tariff	
Tariff Category	Sales (MU)	Revenue at Existing Tariff (Rs.Crore)	Revenue at Proposed Tariff (Rs.Crore)	Increase in Revenue at proposed Tariff (Rs.crore)	Increase in Tariff (%)	Revenue at the Approved Tariff (Rs.Crore)	Increase in Revenue at Approved tariff (Rs.crore)
LT Domestic	9348	2,838.39	3,465.30	626.90	21.2%	3,515.64	677.25
LT IV Industrial,	1167	630.51	755.80	125.28	19.9%	695.31	64.80
LT V Agricultural	319	57.93	89.03	31.11	53.7%	76.28	18.35
LT XI Pub lighting	333	108.28	124.94	16.66	15.4%	119.94	11.66
HT- I Industrial	1777	993.56	1,182.19	188.63	19.0%	1,097.48	103.93
HT III Agriculture	9	3.86	5.20	1.34	34.8%	4.79	0.93
Total HT	2810	1,882.77	2,136.61	253.84	13.5%	2,010.05	127.29
EHT -66kV	334	181.79	216.44	34.65	19.1%	198.40	16.61
EHT-110 kV	778	392.92	470.45	77.54	19.7%	430.94	38.02
Railways	209	110.84	136.89	26.05	23.5%	120.26	9.42

Table 8.4
Cost Coverage and Increase in Tariff

	Cost Coverage			Average Tariff		Increase (%)
Tariff Category	Cost Coverage in 2012-13 revision	Cost coverage as per 2013-14 revision	Cost coverage as per Revised tariff	Average reasliation in 2013-14 revision	Average Tariff as per Approved Tariff	Increase in tariff wrt 2013-14 Average tariff
LT Domestic Total	***61%***	***61%***	***71%***	***3.08***	***3.76***	***21.9%***
LT IV Industrial,	*111%*	*111%*	*113%*	*5.58*	*5.96*	*6.8%*
LT V Agricultural	*38%*	*37%*	*45%*	*1.84*	*2.39*	*30.0%*
LT XI Pub lighting	*59%*	*60%*	*68%*	*3.00*	*3.60*	*20.0%*
HT- I Industrial	*112%*	*113%*	*117%*	*5.70*	*6.18*	*8.3%*
HT III Agriculture	*99%*	*93%*	*104%*	*4.67*	*5.50*	*17.9%*
EHT -66kV	*107%*	*106%*	*112%*	*5.35*	*5.94*	*11.1%*
EHT-110 kV	*101%*	*102%*	*105%*	*5.15*	*5.54*	*7.5%*
Railways	*110%*	*111%*	*109%*	*5.57*	*5.75*	*3.2%*

CHAPTER – 9

ORDERS OF THE COMMISSION

9.1 The Commission after having considered the documents placed before it and having heard the views of the stakeholders and Kerala State Electricity Board Limited, does hereby approve an Aggregate Revenue Requirement of Rs.10219.19 crore and a total Expected Revenue from Charges of Rs.9126.41 crore as against Rs.12057.62 crore and Rs.9126.41 crore respectively projected by the Kerala State Electricity Board Limited in the Original Petition No. 9 of 2014 for the year 2014-15, subject to the observations and conditions mentioned in this order**.** The revenue gap approved for the year 2014-15 is Rs.1092.78 crore against Rs.2931.21 crore projected by the KSEBL.

9.2 The Government of Kerala have notified the Second Transfer Scheme in exercise of its powers under Section 131 (2) of the Electricity Act, 2003, by which, the assets and liabilities of the erstwhile Kerala State Electricity Board which stood vested in Government as per the First Transfer Scheme, have been re-vested in the newly formed company namely Kerala State Electricity Board Limited. The KSEBL has submitted statements showing strategic business unit wise split up of expenditure and revenue in view of the provisions in the Second Transfer Scheme, to be considered for the approval of ARR & ERC. The licensee has also submitted the particulars of asset revaluation, distribution of assets among strategic business units, actuarial valuation of pension liabilities, formation of Master Trust for disbursement of pension etc., consequent to the issuance of the Second Transfer Scheme by the Government. The Commission has engaged consultants to study the consequence of the Second Transfer Scheme in comparison with the practices and methods followed in other States. The consultants have submitted their preliminary report. The Commission had called for various other details and data from the licensee which are yet to be received in full. Therefore the Commission will examine the impact of Second Transfer Scheme subsequently with reference to the records and report of the consultants, so that the issues can be analysed and firmed up before approving the truing up petition. The Commission will also conduct special reviews on implementation of projects, computerization and efficiency improvement measures of KSEBL.

9.3 KSEBL has also filed tariff petition for bridging the revenue gap to the tune of Rs.1423.63 crore by way of tariff revision. After considering the petition filed by KSEBL, the views of the stakeholders, additional submissions, clarifications etc., filed by KSEBL, the Commission in exercise of its powers under Section 62 and Section 86(1) of the Electricity Act, 2003, KSERC (Terms and conditions of Retail sale of Electricity) Regulations, 2006, and other enabling Regulations as well as after taking into consideration the stipulations in National Electricity Policy and Tariff Policy, does hereby order as stated below:

I. The retail tariffs applicable to the consumers of KSEBL are hereby approved with appropriate modifications as mentioned in chapter-8 of this order. This order shall be effective from 16-08-2014 till 31-03-2015.

II. The retail tariff approved as per this order shall be applicable to consumers of all other distribution licensees also in the State from 16-08-2014 till 31-03-2015 and the categorizations/classifications of consumers as per this order shall also be applicable to the consumers of all licensees in the State.

III. The rates and methods of billing as approved by the Commission in its order dated 30.04.2013 in OP No. 2/2013 and as notified on 09.09.2013 in Kerala Government Gazette Extra Ordinary will continue to be in force until further orders are issued by the Commission, in respect of the following:

(a) Bulk Supply Tariff
(b) Transmission Charge
(c) Wheeling Charge
(d) Cross Subsidy Surcharge
(e) Standby Charges

IV. The Commission will issue separate orders on Bulk Supply Tariff and the other charges mentioned above. It is clarified that the order revising the bulk supply tariff will have effect from 16.08.2014.

V. The Commission will also issue separate orders on tariff for single point supply, high voltage rebate and low voltage surcharge separately.

VI. The Commission will also issue separate orders on meter rent, pooled cost of power purchase and incentive for off-grid solar power generation.

VII. Existing incentives for power factor shall continue without change until further orders.

9.4 The Petition No. 9 of 2014 filed by Kerala State Electricity Board Limited is disposed of as above and it is ordered accordingly.

Dated the fourteenth day of August 2014.

Sd/-	Sd/-	Sd/-
P.Parameswaran	**Mathew George**	**T.M.Manoharan**
Member	**Member**	**Chairman**

CHAPTER – 10

DIRECTIVES

The Commission has been issuing directives in the successive ARR&ERC orders, and it is noted that many of the directives issued were not fully implemented. The Commission views this seriously. The Commission urges that the licensee should implement the directions and report the compliance. In addition to these directives, the following directions are also issued.

1. Re-organisation of the Board:

a) As per the notification dated 31-10-2013, Government of Kerala have re-vested the assets, liabilities etc., in the company namely Kerala State Electricity Board Limited (KSEBL). As per the notification, any subsequent changes in the transfer scheme to be effected shall be made within the period of one year ie., before 31-10-2014. The opening balance sheet of KSEBL as on 1st April 2012, was notified in the said notification. This balance sheet was provisionally modified by KSEBL as on 1-4-2013. The Commission hereby directs that as mentioned in the Government notification, any further changes proposed shall be made within the stipulated date and got approved by Government. Separate balance sheets may also be prepared for strategic business units (SBU) and suitable transfer price mechanism be put in place. The details of the same shall be submitted before the Commission as soon as it is finalized.

b) Separate balance sheets for SBUs shall be filed from the petition for approval of ARR for the financial year 2015-16 onwards.

2. Statutory requirements as per Companies Act :

a) The KSEBL shall complete all formalities relating to corporatization in a time bound manner

b) The KSEBL shall also complete all the statutory requirements such as adoption of accounting policies etc., as per the requirements of Companies Act within the time limit, and in any case before filing the next ARR petition.

3. Formation of Master Trust and issue of bonds: KSEBL shall comply with the following directives regarding formation of Master Trust:

a) KSEBL shall complete the formation of Master Trust on or before 30th of October 2014, the last date fixed for notification of the Final Transfer Scheme and submit all details to the Commission.
b) The KSEBL shall issue the bonds as required for the formation of Master Trust and the interest shall be credited to the fund on a monthly basis.
c) The amount due from the government to be adjusted against the electricity duty shall also be adjusted and credited to the fund on a monthly basis.
d) The payment of pension shall be effected from the Master Trust once it is formed.
e) A monthly progress report on all the credits and debits to the fund shall be submitted to the Commission promptly.
f) The details of the methodology adopted and the estimation of yearly contribution of pension for the existing employees shall be submitted as part of the ARR&ERC petition.
g) If the constitution of the Master Trust and the transfer of interest on the bonds are delayed, the corresponding interest charges will be deducted from the interest due.

4. **Optimization of employee cost :** As mentioned in Chapter 5, allowing provision for pay revision, shall be subject to compliance of the following directions:

a) Pay revision exercise shall be done by an independent external committee.

b) The terms of reference for such pay revision panels should include prescribing measurable productivity guidelines for all cadres, gainful re-deployment of surplus staff, incorporating the impact of computerization on the work norms etc.

c) The recommendations of the Pay Revision Committee on these issues should also be included in the long term settlement and implemented in a time bound manner

d) KSEBL shall explore and implement schemes and programmes for utilization of unutilized or underutilized skills of the technical cadre for revenue earning consultancy or contracts outside.

5. **Tariff Subsidy for consumers:**

a. KSEBL shall implement the orders on subsidy announced by the Government only as per the provision of Section 65 of the Electricity Act, 2003. Unless the amount equivalent to subsidy is received in advance from the Government, no subsidy shall be granted to the consumers.

b. Any subsidy schemes in vogue without the express sanction of the Commission shall be stopped forthwith and the same can be implemented only with the approval of the Commission. For this purpose, the KSEBL shall approach the Commission with definite proposal giving all details including the financial commitment and source of funding.

c. The accounting of subsidy at the field units are also not proper and inconsistent with the directions issued by the Commission. The demand raised in the consumers bill shall be as per the tariff approved by the Commission and the subsidy if any shall be shown as deductions from the demand. Further the total demand /revenue from sale of power shall be aggregated from the field level without subsidy and subsidy amount so extended shall be shown separately in the books.

d. The licensee is further directed to comply with the conditions given in letter of the Commission dated 28-5-2013 on accounting of subsidy and furnish the reports as directed on time.

e. It is also clarified that if any subsidy is allowed without receiving the subsidy in advance from Government or without the express sanction of the Commission, the responsibility will entirely rests with the licensee only and shall not be allowed to pass on to the consumers.

6. Power purchase

a) Purchase of power from the traders and exchanges over and above the contracted power for meeting the demand including the compensatory purchase on account of short fall in hydro /CGS/other sources shall be limited to a price not more than Rs5/kWh at the Kerala periphery.

b) KSEBL shall immediately assess the long term deficit in availability of power and contract for long term power purchase through case -1 bidding process.

c) KSEBL shall submit the petitions for approving the fuel surcharge as per the provisions of the relevant regulations in a time bound manner.

7. Other directives

a) KSEBL shall scrupulously endeavour to meet RPO obligation including solar power obligation and submit the periodic report on the compliance, to the Commission.

The Commission anticipates that the KSEBL will review and streamline all its activities to improve productivity of human resources, efficiency gains and consumer satisfaction.

Dated the fourteenth day of August 2014.

Sd/-	Sd/-	Sd/-
P.Parameswaran **Member**	**Mathew George** **Member**	**T.M.Manoharan** **Chairman**