

CHAPTER - 1

INTRODUCTION

- 1.1 The Special Officer, Managing Committee, Kerala State Electricity Board (*hereinafter referred to as KSEB or the Board*) in accordance with the KSEB (Tariff) Regulations 2003, filed petition for approval of Aggregate Revenue Requirements (ARR) and Expected Revenue from Charges (ERC) for Financial Year (FY) 2013-14 before the Commission on 3-1-2013. The petition also contains proposals for revision of tariff for all categories of consumers. Though as per the KSEB (Tariff) Regulations 2003, ARR&ERC petition has to be filed four months prior to the commencement of a financial year, the Board had sought extension of time for one month from 30-11-2012, for filing the petition. After considering the request of the Board and similar requests from other licensees, the Commission gave extension of time for two weeks from 30-11-2012. But the Board filed the petition on 3-1-2013, with a delay of 18 days. The Commission decided to condone the delay and admitted the petition on 3-1-2013.
- 1.2 In the petition the Board has projected a revenue gap of Rs.2758.67 crore, out of which Rs.1573.54 crore was proposed to be made up by a tariff revision. Even after considering the tariff revision proposal, the unbridged revenue gap for 2013-14 is Rs.1185.13 crore for which no definite proposal has been submitted.
- 1.3 The Commission so far had issued ten orders on ARR & ERC of the Board 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

*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 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 Board 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

- 1.4 The truing up petition for 2003-04 & 2004-05 filed by the Board 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 Board 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.
- 1.5 Against the revenue surplus of Rs.184.64 crore fixed for 2006-07, the Commission directed the Board to file proposal for appropriate tariff revision. However, the Board 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 Board 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 tariff for Bulk supply (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.

- 1.6 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

- 1.7 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 Board to file suitable

proposals for bridging the revenue gap. However, the Board 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 Board based on the provisional accounts.

- 1.8 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 Board.
- 1.9 In 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 Board and approved by the Commission. The Board has filed a review petition for considering the Government's capital in the Board and allowing return there on in the light of Government Order dated 13-12-2010. Regarding depreciation, the Commission in its order dated 13-4-2012, decided that depreciation need not be allowed on assets created out of contributions and grants by any Licensee in the State as a general rule. In the case of KSEB, this will be made applicable from 2010-11 and the proposal for clawing back the depreciation already claimed by the Board and allowed by the Commission upto 2009-10 is dispensed with. In the case of Return on Equity, pending a decision based on the Consultant's report 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 Capital in KSEB provisionally and to review the matter later.
- 1.10 Subsequently, the Board has 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.

1.11 The Commission has 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. 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 2012-13

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	-639.43			-639.43	--- do---
2010-11	-457.47	-1229.30	-466.29		-381.42 ^e	-847.71	--- do---

Year	Revenue gap/Surplus (Rs. crore)						Remarks
	ARR Order	Actual as per accounts	Truing up	Subsidy Adjustment	Other Adjustments	Truing up final	
Total	-1186.12	-4934.26	-191.65	778.52	-911.27	-324.40	
2011-12	-928.62						As per ARR&ERC order
2012-13	-1889.15 ^f						As per ARR&ERC order
Total	-4003.89	-4934.26	-191.65	778.52	-911.27	-324.40	

^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 cr 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

1.14 Considering the trued up figures of revenue gap and surplus upto 2010-11 and the ARR&ERC orders of 2011-12 and 2012-13, and the Tariff Revision and fuel surcharge in 2012-13, the accumulated revenue gap of KSEB as on 1-4-2013 is Rs. 1737.92 crore.

1.15 In the ARR for FY 2013-14, the Board has projected a revenue requirement of Rs.11237.11 crore and revenue receipts of Rs.8478.44 crore thereby leaving a revenue gap of Rs.2758.67 crore as shown below.

Table 1.4 Revenue Gap Proposed by KSEB for 2013-14

Particulars	2010-11	2011-12	2012-13	2013-14
	Actuals	Actuals	Approved	Projected
	(Rs. crore)	(Rs. crore)	(Rs. crore)	(Rs. crore)
Aggregate Revenue Requirement	6,925.16	7,978.01	7,986.40	11,237.11
Revenue from sale of power	5,198.52	5,593.01	5,711.10	8,144.55
Non-Tariff revenue	442.74	450.84	386.14	333.20
Total Revenue	5,641.27	6,043.85	6,097.24	8,478.44
Revenue Gap	(1,283.90)	(1,934.16)	(1,889.15)	(2,758.67)

1.16 The Commission in its order dated 25-7-2012, had increased the tariff for all consumer categories resulting in revenue growth of about Rs.1677 crore for full

year. The Board has considered the impact of tariff revision in the present petition. In addition to the impact of increase in revenue due to tariff revision, the Board has anticipated Rs.144.55 crore as additional revenue from consumers for consumption over quota on account of power restrictions for the months of April and May 2013. This is in tune with the order of the Commission dated 12-12-2012, introducing power restrictions in the State of 20% and 25% respectively for consumers with and without load shedding.

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

1.18 The revenue gap proposed by the Board for the year 2013-14 is substantially higher than in the previous years. A comparison of the proposals in the previous years is given below:

Table 1.5
Comparison of ARR&ERC Proposed by KSEB For 2010-11 To 2013-14

Items	2010-11 (Actuals)	2011-12 (Actuals)	2012-13 (Approved)	2013-14 (projected)	Increase over previous year	
	Rs. crore	Rs. crore	Rs. crore	Rs. crore	Rs. crore	%
Generation & Power purchase	3,959.09	4,656.95	5,201.74	7083.4	1,881.66	36.17%
Interest & Finance Charges	280.91	340.51	370.19	588.42	218.23	58.95%
Depreciation	473.43	465.99	414.62	435.84	21.22	5.12%
Employee Cost	1,712.80	1,903.32	1,663.66	2,551.50	887.84	53.37%
R&M Expenses	231.85	251.7	195.95	304.56	108.61	55.43%
A&G Expenses	174.56	202.72	86.11	244.12	158.01	183.50%
Other Expenses	-28.39	73.21	18.5	19.5	1.00	5.41%
Gross Expenditure	6,804.25	7,894.40	7,950.77	11,227.34	3,276.57	41.21%
Revenue gap	1,283.90	1934.16	1,889.16	2758.67	869.51	46.03%

1.19 It is pertinent to note that the revenue gap projected has increased by about Rs.870 crore, which is about 46% higher than approved figures for 2012-13. This has to be viewed in the light of tariff revision of about 30% effected in 2012-13, which shows the impact of cost increase over the year. The revenue gap is contributed by overall increase in expenses, which is driven mainly by the power purchase cost. The total expenses have increased by about 41% and the power purchase alone contributes an increase of about Rs.1881.66 crore, followed by interest charges, R&M

expenses and employee costs. *Prima facie* it can be seen that the increases proposed are much higher than the current levels of inflation. The Commission views this alarming increase with great concern.

Procedural formalities

1.20 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 Board vide letter dated 15-1-2013. KSEB in its letter dated 7-1-2013 informed that there are some clerical errors in the petition and forwarded a revised soft copy for uploading in the website. Since the corrections are mainly of clerical nature, the Commission allowed the same and the revised version was uploaded in the website. The Board provided its reply on the clarifications on 1-3-2012. As an addendum to the original petition, the Board has submitted proposal on re-categorisation and open access charges before the Commission on 8-2-2013. The Commission directed the Board to publish the summary of the petition by giving time till 20-2-2013 for providing comments by the public and stakeholders. The Board published the summary of the petition in the following dailies.

- Keralakaumudi daily dated 30-1-2013 and 16-02-1013
- Deshabimani daily dated 30-1-2013 and 16-02-1013
- The New Indian Express dated 30-1-2013 and 16-02-1013
- The Hindu daily dated 30-1-2013 and 16-02-1013

21. The list of persons who filed objections on the petition is given as Annexure –I. The Commission vide its letters dated 28-2-2013, 11-3-2013 and 15-3-2013 forwarded copies of objections filed by the public for obtaining reply from the Board. The Board forwarded the reply to the objections which is given as Annexure – II The Commission vide letter dated 22-1-2013 informed all other licensees in the State on the tariff revision proposal of the Board for obtaining comments from stakeholders. A meeting of all the licensees except the Board was also convened on 19-3-2013 to discuss the revision of Bulk Supply Tariff proposal of the Board.

Public Hearings

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

Date	Venue	Time
4-3-2013	IMA House, Jawaharlal Nehru Stadium Road, Palarivattom P.O. Kochi	10:30 AM
6-3-2013	Town Hall, Kozhikode	10:30 AM
12-3-2013	Institution of Engineers Hall, Vellayambalam, Thiruvananthapuram	10:30 AM

1.23 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

1.24 Many persons present in the public hearing objected to the projections and estimation of the Board given in the petition. The Board has been over projecting the expenses to show inflated revenue gap. They have criticised the Board for not taking measures for controlling the costs so as to reduce the revenue gap. Other major criticism was on lack of progress on capital expenditure programme and arrear collection. Consumers have generally advocated for promotion of alternative energy sources. Promotion of solar energy for overcoming the power shortages was strongly raised by many members of the public. Shri. Ravi, Chalakudi Puzha Samrakshna Samithi advocated that promoting solar energy is very important in improving quality of service as well as financial status of the electricity sector in the State. Since solar generation is at the consumer premises, there will not be any distribution loss, which will at least reduce 20% of the energy generation. The solar installations are to be provided to government/ private offices, educational institutions that functions only during day time where solar generation without batteries is suitable and can be installed at lower costs. According to him, the cost of the solar systems being supplied by the Government is very high and at present the market rate is about Rs.1.25 to Rs.1.4 lakhs. Hence the cost fixed for the Government programme may be reviewed immediately. The Government should provide subsidy to smaller solar systems of 100W to 500W so that even consumers in lower income strata can be brought into the solar net. KSEB should discourage the conventional inverters and promote solar inverters. Non-solar inverters may be phased out over next couple of years. If the present inverter is converted to solar invertors, the Board can recover the cost in two years. Further hybrid systems of solar/wind and solar/biomass systems may be explored. He stated that marginal demand can be met through solar sources, which will reduce the requirement of generation from Liquid Fuel Stations (LFS), and will reduce the cost. Shri. Ramachandran Nair, Shri. Abdul Kutty, Shri. Balasubramanian and others also expressed similar opinion on promotion of solar energy.

1.25 Shri. N.S.Alexander, Thiruvananthapuram with support of exhibits containing news paper clippings and details collected from Board submitted comprehensive proposals for avoiding increase in electricity charges. In the case of arrear collection, he has stated that per the details from the Board, a total of 208 cases are

pending before the court from 1989 to 2010, out of which counter affidavits have been filed by the Board only in 28 cases in spite of the fact that the Board has an established Law Wing to conduct the cases. He has produced supporting details of about 30 pages in this regard. Similarly in the case of revenue recovery cases, about 100 cases involving huge arrears are pending for want of revenue recovery proceedings and has produced the list of such cases. He has pointed out that there is no domestic consumer in the list of arrears, showing that the Board is capable and keen to collect arrears from such consumers. However, no such action is taken against large government and private consumers, who are regularly paying their establishment costs, taxes and other dues except electricity charges. Hence he is of the view that it cannot be wrong to allege that Board is intentionally keeping a deaf ear and blind eye to such offenders. Shri. Samuel, Shri. Dijo Kappan, Southern Indian Mills Association, and many others expressed similar supporting views on arrear collection.

1.26 Representatives of domestic consumers, Shri. K. A Prasad, Shri. K.N Chandransekharan, Shri. Muraleedharan, Shri. Dijo Kappan, Representative of Hotel and Restaurants Association and many others pointed out the wastage of energy through burning streetlights in day hours and strongly argued for installation of automatic regulators for streetlights. Representative of large consumers suggested that cross subsidy needs to be reduced as per the provisions of the Act and requested that tariff increase cannot be effected in the light of the large increase which has already been effected from 1-7-2013. The details of the objections on specific items are dealt under appropriate places in the order.

1.27 Considering the views expressed by the public the Commission issued an order covering the major issues and directed the Board to furnish details on the following within two weeks:

- a) Steps taken for cost reduction, increase in efficiency and consumer satisfaction
- b) Status of computerization in billing, inventory management, Pension, PF, Establishment and the details of redeployment of staff
- c) Details of DSM efforts planned for 2013-14
- d) Steps taken for reduction in employee costs
- e) Concrete measures for harnessing solar energy and quantity of energy proposed from solar sources during 2013-14
- f) Update of R-APDRP - with details of all project components, yearwise physical and financial targets and progress

- g) Capital expenditure plan with details of projects, outlay, date of commencement, physical/financial targets, achievements, balance etc.
- h) Measures taken for effective collection of arrears.
- i) Time line for implementing meter reading through PDA, anywhere bill payment system, automation of streetlight control mechanism

The Commission further directed the Board to explain the following issues within two weeks:

- a) Why more medium term open access is not resorted to for meeting the demand in 2013-14
- b) Why the estimate of Rs.1500 crore capital expenditure should not to be curtailed considering the performance in last year

1.28 On the above issues, the Board has submitted detailed reply vide its letter dated 2-4-2013. The Commission would review the commitments given by the Board appropriately in due course. Regarding the inability to arrange medium term open access for meeting the demand for 2013-14, the Board has given report on the arrangements made for meeting the demand in 2013-14 through medium term open access. According to KSEB, steps were initiated in May 2012 for availing power through Medium Term Open Access (MTOA) for the period from June 2013, considering the transmission constraints in southern region. Based on the assessment in May 2012 that power from Koodamkulam (266MW) and NLCII Expansion (70MW), KSEB proposed to purchase 300 MW RTC power with a compensation clause of Rs.2/unit.

The assessment of requirement of 300MW is based on the following premises:

- The demand position during monsoon period will be 2000MW during night off peak and 2500MW during day time. The total power availability from hydro sources due to spilling would be about 700 to 800MW and from CGS would be 1300 MW if power from Koodamkulam is also available.
- In monsoon season, energy prices in the Exchange will be Rs.4 to Rs.5, and about 100MW is expected from UI also.
- Higher quantum from traders may result in surrender of CGS share.

1.29. The offers from traders were invited in June 2013 and Lols were issued for purchasing 300MW at KSEB periphery as shown below:

- 100MW through PTC from Sterilite Energy, Orissa @ Rs.4.17 per unit.

- 100 MW through PTC from Chhattisgarh State Power Trading Company Limited @ Rs.4.27 per unit
- 100 MW through M/s Shree cements

1.30 KSEB entrusted the traders to apply for MTOA and out of the above, M/s PTC applied for MTOA on 29-6-2012 for which MTOA was granted and M/s Shree cements applied only on 28-9-2012 for which MTOA was not granted as MTOA was completely allocated by then.

1.31 KSEB again invited bids for 600MW through traders for the period from November 2013 to October 2014 considering that MTOA for 100MW was not available and the possible delay in commissioning of Koodamkulam project and NLCII Expansion. LOI has been issued to three traders, M/s Jindal (150MW-RTC), M./s Sterilite Power (200MW RTC) and M/s PTC (250MW RTC) and the traders have applied for MTOA, which has not been granted yet. However, out of this about 15 to 20% (about 100MW) may be available through Short Term Open Access (STOA). The balance may have to be met from energy exchange and traders on short term basis.

1.32 The Commission notes that, the Board had applied for MTOA in 2012-13 and 2013-14 on the following occasions.

Table 1.6: Application Details of MTOA for KSEB

Name of the applicant applied for KSEB	Entity/location of Generating station	MTOA capacity (MW)	Date of application	Period of MTOA		Status/Remarks
NVVNL	Vandana Vidyutt Limited	78	28-4-2012	1/10/2012	31-5-2013	Application closed as entire ATC already allocated
NVVNL	Sterilite Energy Limited	155	30-4-2012	1/9/2012	31-5-2013	Application closed as entire ATC already allocated
NVVNL	Jindal Power Limited	78	30-4-2012	1/10/2012	31-5-2013	Application closed as entire ATC already allocated
JPVL	Karcham Wangloo Hydro HP	150	29-5-2012	1/11/2012	31-5-2013	Application closed as entire ATC already allocated
PTC	Jindal Power Limited	100	31-5-2012	1/11/2012	31-5-2013	Application closed as entire ATC already allocated
PTC	Chhattisgarh State power Dicom	100	31-5-2012	1/11/2012	31-5-2013	Application closed as entire ATC already allocated
PTC	Chhattisgarh State power	100	29-6-2012	1/6/2013	31-5-2014	Application withdrawn by the applicant

Name of the applicant applied for KSEB	Entity/location of Generating station	MTOA capacity (MW)	Date of application	Period of MTOA		Status/Remarks
	Discom					
PTC	Sterlite Energy Limited	100	29-6-2012	1/6/2013	31-5-2014	Granted
PTC	Chhattisgarh State power Discom	100	31-7-2012	1/6/2013	31-5-2014	Granted
Shree cements Limited	Shree Cements Limited	100	28-9-2012	1/6/2013	31-10-2014	Application closed as entire ATC already allocated
Sterlite Energy limited	Sterlite Energy Limited	200	26-11-2012	1/11/2013	31-10-2014	Application closed as entire ATC already allocated
Jindal Power	Jindal Power Limited	150	29-11-2012	1/11/2013	31-10-2014	Application closed as entire ATC already allocated
Chhattisgarh State power Discom	KSK Mahanadi Power limited	250	30-11-2012	1/11/2013	31-10-2014	Application closed as entire ATC already allocated
Shree cements Limited	Shree Cements Limited	100	26-12-2012	1/6/2013	31-5-2014	Under process

1.33 As per the details available, the Board could not obtain MTOA in 2012-13 for any of the contracts entered into, but managed to receive MTOA for 200MW for the year 2013-14, though Lol was issued for 300MW. As per the details given by the Board, there is remote chance of getting MTOA for the balance 100MW and STOA may have to be resorted to in due course. It can be seen that the Board has resorted to medium term contracts with compensation clause of Rs.2/kWh for the first case (for which MTOA was received), where as for the second tender, there was no compensation clause and hence, the Board as well as the selling entity (Shree Cements) had no obligation to purchase /sell energy, resulting in risky situation for KSEB in adverse market condition.

1.34 The Commission would like to point out that the open access for inter state transmission lines are governed by the regulations of CERC. Since, all entities in a region on the same footing in terms of information availability and the probability for obtaining open access, the chances of success depends on the alacrity and better short-medium-long term planning capability of respective entities. This is especially true in the case of MTOA, where open access for more than three months upto three years is provided without augmenting the system capacity. The Commission observes that the Board has partially succeeded in tying up medium

term power purchase for 2013-14 and continues to be exposed to the risks and uncertainties of short term power market including power exchanges.

- 1.35 On the issue of curtailing the proposed capital expenditure of Rs.1521 crore to reasonable levels, the Board has submitted that capital expenditure may be allowed as proposed by the Board. In the case of generation, out of Rs.419.5 crore, Rs.242.80 crore is earmarked for ongoing schemes, and the balance for new projects, survey and investigation and other routine works. The Board justified the estimates as reasonable and requested not to curtail the outlay further. The transmission projects proposed/under construction, are as per the load flow studies, necessary for evacuation of power and for enhancement of capacity. The works include projects which are to be completed in 2013-14 and commenced in 2013-14. Thus the Board suggested that the total outlay is Rs.293 crore and curtailment of estimated amount will adversely affect the targeted works.
- 1.36 Out of the Rs.800 crore of capital expenditure proposed for distribution, Rs.334 crore is for central schemes like R-APDRP, and RGGVY. The R-APDRAP works are being executed in 40 towns and are scheduled to be completed by this financial year. RGGVY works for 6 northern districts are expected to be completed by May 2013, except for Malappuram. Works in Southern districts are executed departmentally and are expected to be completed before Onam celebrations 2013. The Plan works include the normal capital works undertaken by the Board using own funds, deposit works, and the works funded by Kerala Development Programme and works undertaken using special development funds of MP/MLAs. The progress under the plan works are not satisfactory. The reasons, according to the Board, for the slow progress is financial stringency and lack of availability of materials. However, for the ensuing year, steps have already taken for executing the capital projects through availing project specific funds, streamlining material procurement process etc.,

Deliberations in the Advisory Committee

- 1.37 The Commission forwarded the abstract of the petition to the members of the State Advisory Committee and convened a meeting on 13-3-2013. The Advisory Committee discussed the ARR&ERC of KSEB for the year 2013-14 and tariff petition in detail in its 26th meeting held at Thiruvananthapuram. The minutes of the meeting of the State Advisory Committee is given as Annexure –IV. The Committee in general expressed the view that the tariff revision has to be in line

with the socio-economic conditions in the State, which requires subsidy or cross subsidy. The members have also expressed the need for cost control.

- 1.38 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 Board which stood vested in the State Government shall 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. The Government vide its order No.G.O.(Ms) No.11/2013/PD dated 23-3-2013 has extended the time limit for re-vesting the assets and liabilities of the erstwhile KSEB to the fully owned Government company namely, the Kerala State Electricity Board Limited till 30-6-2013. Considering this, for the purpose of this order, the Commission refers to the utility vested in Government as 'the Board' or 'KSEB'
- 1.39 After considering all the statutory provisions, the views of the State Advisory Committee, the stakeholders and of the Board, and after going through all the due procedures envisaged under the Act, the Commission has taken the decision on the proposal for approval of the ARR & ERC and tariff petition of the Board for 2013-14 as detailed in the subsequent chapters.

CHAPTER - 2

PROJECTIONS OF ENERGY SALES

Sales Projection of the Board

2.1 The Board in its petition has stated that the energy sales projection for the year 2013-14 is 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 projections were made based on the sales data from 2005-06 onwards. As per the estimates given by the Board, the compounded annual growth rate (CAGR) for the period 2005-06 to 2011-12 is 7.65%. According to the Board, as against the sales growth of 4.13% in 2010-11, the growth during 2011-12 was 9.85%. The increase in sales in 2011-12, according to the Board is due to the following reasons :

- There was no restrictions on the use of power in 2011-12
- The consumption per consumer increased due to consumer preferences through the use of latest electronic gadgets and household electrical appliances.

2.2 The Board has revised the projections of the energy sales for 2012-13 considering the increase in consumption pattern. Based on the half yearly sales estimates in 2012-13, the Board has estimated that in the case of LT consumers, increase in sales is 8.67% and that of HT consumers is 6.90% over 2011-12. Considering the actual consumption for the period from April to September 2012 (with restrictions in April and May 2012), the Board has projected the revised energy sales for the year 2012-13 as 17458MU. Though power restrictions are in force from December 2012, no substantial reduction in energy consumption is expected for the year. However, considering ½ hour cyclic load shedding, the revised energy sales expected for 2012-13 is 17181MU.

2.3 The Board has proposed to give 3.5 lakh connections during 2013-14. Considering the past growth of sales, energy conservation measures proposed to be initiated, sales to licensees and new EHT 220kV consumer, the sales projected for the ensuing year 2013-14 is 18521MU. Considering the ½ hour cyclic load shedding in morning and evening hours for the month of April and May, 2013, there will be a reduction in demand to the tune of 1.8MU per day and accordingly, the sales forecast for the year 2013-14 is assessed at 18428MU as shown below:

Table 2.1
Energy Sale Projected by the Board for the Year 2013-14

Category	2011-12 (Actual)	2012-13 (Revised)		2013-14		
		(Revised)	Annual Increase	With out load shedding	With load shedding (April & May-2013)	Annual Increase from 2012-13
	(MU)	(MU)	(%)	(MU)	(MU)	(%)
LT category						
Domestic	7690	8355	8.64%	9151	9101	8.93%
LT-VI Commercial	2141	2331	8.87%	2560	2546	9.21%
LT-IV Industrial	1097	1132	3.19%	1178	1171	3.48%
LT-V Agriculture	286	293	2.45%	299	297	1.38%
Public Lighting	294	303	3.06%	309	307	1.35%
Sub total LT	11525	12415	7.72%	13496	13422	8.11%
HT-I Industrial	1596	1675	4.95%	1757	1747	4.32%
HT-II	116	127	9.48%	130	130	2.02%
HT-III	8	8	0.00%	9	9	8.88%
HT-IV	866	924	6.70%	986	981	6.17%
EHT 66/110/220kV	1243	1353	8.85%	1425	1425	5.30%
Railway Traction	154	163	5.84%	166	166	2.11%
Bulk supply	472	516	9.32%	552	549	6.35%
Subtotal HT-EHT	4455	4766	6.98%	5025	5007	5.05%
Grand Total	15980	17181	7.52%	18521	18428	7.26%

2.4 As shown above, the estimated sales of the Board after considering load shedding in April and May is 18428MU, which is 93MU lower than the original estimate of 18521MU. The overall growth projected is about 7.26% over the revised estimate of 17181MU in 2012-13 and about 7.39% annually over 2011-12.

Objections of Stakeholders:

2.5 The projections of energy sales by the Board was objected to by many stakeholders. The Chalakkudi Puzha Samrakshana Samithi stated that the argument of the Board that Kerala has adverse consumer mix is not acceptable as it is not a unique scenario for KSEB. The combined consumption of domestic and agriculture in most of the States is about 50%, and Kerala is better off considering lower share of agriculture, which is less than 3%. Though the Board has listed number of DSM measures, no concrete results are presented. Hence, fresh action plan on DSM with public consultation is required. The Samithi pointed out that the Board should change the mission from providing electricity on demand to providing electricity for genuine needs. At present 50% of the power purchase cost is needed for meeting

20% of the demand. So, reduction in demand to the tune of 10 to 15% will reduce the power generation/purchase cost considerably.

2.6 Kerala Newsprint Employees Union stated that the Board has the habit of exaggerating the energy demand and the revenue gap. Higher energy demand in 2012-13 may be due to monsoon failure. According to them the sales has to be projected based on CAGR for 5 to 6 years and the Commission needs to re-estimate the energy demand. KSEB Officers Association in their objections stated that the increase in demand over the years clearly shows that the Board is now paying the price for ignoring the DSM measures. The DSM measures taken up by the Board in 2010-11 appears to have addressed the inefficient lighting load. There is a shift in demand pattern from productive use to consumptive use, which is the reason for increase in domestic and commercial sales at the cost of industrial demand. According to them the DSM measures have to focus more on energy management than peak management. They supported the decision of Commission in providing price signal to domestic category in the previous tariff revision. However, they expressed the opinion that the proposal of extending ToD billing to domestic consumers above 300 units may be counterproductive as it may incentivise the AC load during night off peak.

2.7 Shri. Balasubramanian in his objections stated that the Board has projected the figures much higher than required. He has pointed out that the Board has not proposed DSM programmes or peak load management programmes. Chaithanya Gardens Residents' Association, Mannamoola has suggested that there should be estimates on the wastage of energy and the difference in production and distribution is to be addressed properly. They suggested that the Board should take steps to provide 75% subsidy for solar power generation and supply CFL lamps.

2.8 The Kerala HT-EHT Industrial Electricity Consumers Association pointed out that the ARR&ERC petitions from 2008-09 to 2013-14 have been filed by the Board without complying with the regulations and without the express concurrence of the Commission for deviation from the regulations. If the Board had complied with MYT regulations, advance planning could have been possible and the present sorry state of affairs could have been avoided. According to the Association, the growth in 2011-12 and 2012-13 is close to 10%, which calls for a detailed analysis as the growth rate is high and audited data are not available. Though the Commission had directed the Board to take DSM measures seriously to ensure that the sales growth is moderated and the demand is curtailed, not much actions have been initiated by the Board. The Association based on the CAGR from 2003-04 to 2010-11, has

estimated the sales growth rate at 7.25% and accordingly projected the sales for 2013-14 as 17949MU, which is 574MU less than the projections of the Board. The Association objected to the contention of the Board that the consumption in 2012-13 is excessive, as it is natural considering the monsoon failure and disproportionate increase in sales, which may not continue in 2013-14 also.

2.9 M/s.Cochin Chamber of Commerce, Binani Zinc Employees Union, Binani Zinc employees organisation, Cominco Binani Zinc Employees Association and Kerala Newsprint Employees Union have also stated that assessment of energy sales has to be based on CAGR. They have also expressed the view that higher sales in 2012-13 is due to failure of monsoon. M/s TCC Limited and all the Trade Unions & Officers Unions in TCC opined that the growth of Indian economy has been slowing down and hence the energy demand is also expected to reduce in future.

Analysis of the Commission

2.10 The Commission has analysed the growth projections of the Board in detail. As has been pointed in previous orders, the Board has not clearly given the method of estimation of sales for the year 2013-14. Many consumers have pointed out that Board has over projected the sales. As a cross check, the Commission has estimated sales based on the actual consumption details available from the daily system statistics. As per the system statistics of the Board, the overall energy input for 2012-13 as on 31-3-2013 is 20054MU, as against the projection of 20267MU of the Board. By allowing the same percentage of T&D loss i.e., 15.23% for 2012-13 estimated by the Board, over the actual input of 20054MU, the sale for 2012-13 works out to about 17000MU only. After allowing a growth of 7.8% without load shedding for April-May 2013, the sales for the year 2013-14 has been assessed at about 18326MU, and about 18233MU with load shedding.

2.11 In order to analyse the veracity of the projections of the Board, the growth rate of category wise sales has been analysed for various periods in comparison with the projections of the Board as shown below:

Table 2.2
Growth Rates of Energy Sales for Various Periods

Category	Projections of the Board		<i>Compounded Growth Rates (CAGR) up to 2011-12</i>			
	<i>Annual Growth</i>	<i>Compounded growth from</i>				
	2012-13 to 2013-14	2011-12 to 2013-14	From 2003-04	From 2005-06	From 2007-08	From 2009-10
Domestic	9.13%	8.79%	8.50%	8.68%	8.24%	8.28%

Category	Projections of the Board		<i>Compounded Growth Rates (CAGR) up to 2011-12</i>			
	<i>Annual Growth</i>	<i>Compounded growth from</i>				
	2012-13 to 2013-14	2011-12 to 2013-14	From 2003-04	From 2005-06	From 2007-08	From 2009-10
Commercial	9.21%	9.04%	11.77%	11.86%	11.65%	9.27%
Industrial	3.48%	3.33%	4.85%	3.86%	2.75%	1.54%
Agricultural	1.38%	1.91%	4.44%	7.05%	5.48%	5.49%
Street Lights	1.35%	2.20%	7.41%	5.94%	4.24%	-1.50%
Sub total LT	8.11%	7.92%	8.50%	8.58%	8.08%	7.48%
HT I	4.32%	4.64%	4.47%	2.68%	2.23%	4.91%
HT II	2.02%	5.69%	-1.41%	-1.88%	-4.25%	-0.43%
HT-III	8.88%	4.34%	-1.46%	-3.65%	-2.90%	0.00%
H- IV	6.17%	6.43%	13.98%	14.82%	14.32%	11.79%
EHT 66/110/220	5.37%	7.10%	1.46%	3.62%	4.96%	4.01%
Railway Traction	2.11%	3.96%	16.30%	17.67%	9.02%	-3.39%
Bulk Supply	6.35%	7.83%	12.19%	8.09%	7.23%	6.90%
Sub total HT	5.07%	6.02%	5.47%	5.46%	5.44%	5.60%
Total	7.27%	7.39%	7.57%	7.65%	7.31%	6.95%

2.12 It can be seen that there is a flattening trend in demand which could also be due to the stabilization of demand due to the near complete electrification and flattening industrial 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 commercial, as well as hospitality and other service sectors. Hence, a realistic assessment of long term energy demand is required.

Table 2.3
Average Annual Growth Rates of Sales

Category	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
LT Category								
Domestic	6.44%	9.53%	11.68%	7.48%	5.85%	10.59%	4.86%	11.81%
Commercial	7.85%	15.30%	14.00%	10.59%	9.00%	19.37%	8.87%	9.68%
Industrial	4.26%	11.62%	6.86%	5.35%	3.15%	4.83%	-1.03%	4.18%
Agricultural	-5.45%	-0.52%	15.79%	5.00%	-2.60%	14.22%	-9.73%	23.28%
Street Lights	10.24%	13.66%	10.10%	8.73%	18.07%	3.06%	-12.54%	10.94%
Sub total LT	6.10%	10.46%	11.50%	7.69%	6.18%	11.25%	4.05%	11.03%
HT I	10.04%	10.02%	5.43%	1.74%	-9.24%	9.35%	4.55%	5.28%
HT II	8.46%	-7.80%	3.85%	2.22%	-22.46%	9.35%	-12.82%	13.73%
HT-III	0.00%	11.11%	-10.00%	0.00%	0.00%	-11.11%	2.50%	-2.44%
H- IV	11.51%	11.50%	14.02%	17.63%	14.20%	19.69%	9.09%	14.55%

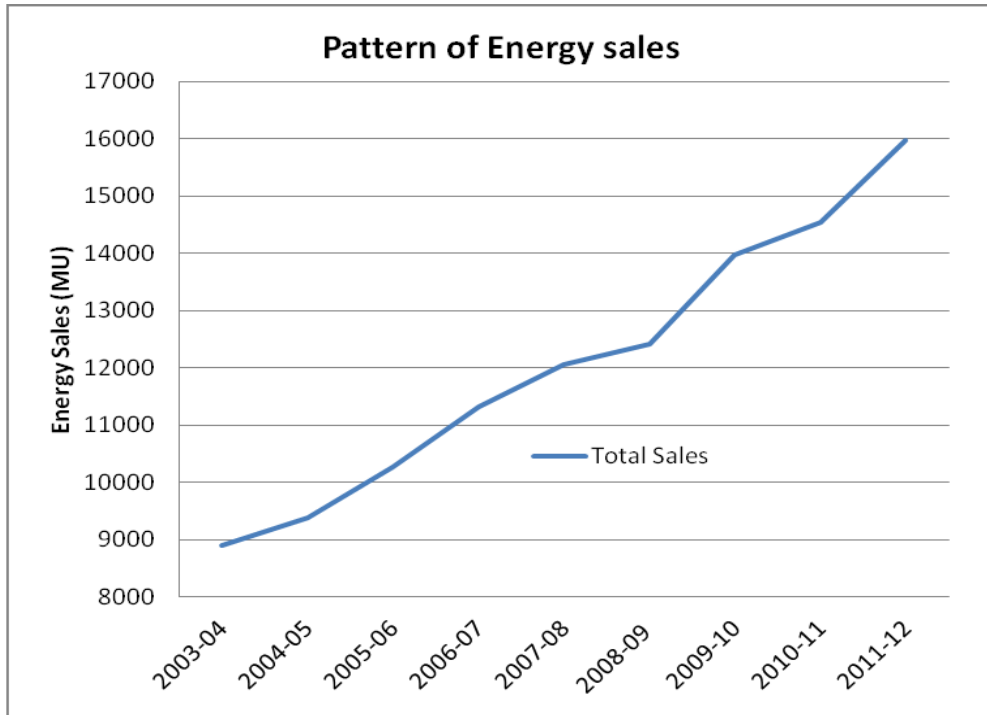
Category	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
EHT 66/110	-6.41%	-3.09%	6.57%	-4.30%	-5.66%	18.94%	2.79%	5.25%
Railway Traction	-4.35%	31.82%	24.14%	51.39%	30.28%	16.20%	-5.45%	-1.28%
Bulk Supply	12.77%	39.62%	13.18%	6.57%	-11.20%	30.28%	8.47%	5.36%
Sub total HT	3.75%	7.25%	7.72%	3.35%	-4.41%	15.93%	4.31%	6.91%
Total	5.33%	9.43%	10.31%	6.35%	3.01%	12.55%	4.12%	9.85%

2.13 The average annual growth rates and the pattern of energy input confirm similar trends as shown below

Table 2.4
Annual Increase in Energy Sales and Energy Input

Year	Energy Sales	Annual increase		Energy input	Annual increase	
	(MU)	(MU)	(%)	(MU)	(MU)	(%)
2003-04	8911			12,281		
2004-05	9384	474	5.33%	12,505	224	1.80%
2005-06	10270	885	9.43%	13,331	826	6.60%
2006-07	11331	1,061	10.31%	14,428	1,097	8.20%
2007-08	12050	719	6.35%	15,065	637	4.40%
2008-09	12414	364	3.01%	15,294	228	1.50%
2009-10	13971	1,557	12.55%	16,978	1,685	11.00%
2010-11	14548	577	4.12%	17,338	360	2.12%
2011-12	15980	1432	9.85%	18,946	1608	9.27%
2012-13	17181	1201	7.52%	20,267	1321	6.97%

2.14 As per the estimates of the Board, the annual growth in 2013-14 from estimated sales of 2012-13 is about 7.27% and from 2011-12 it is about 7.39%. Though the overall growth rate seems to be reasonable, the categorywise growth of major consumer groups such as domestic, commercial etc., are not in line with the trends in previous periods. The domestic sales over the years have shown a compounded growth rate of about 8.25% to 8.7%, whereas the Board has projected higher growth rate. Similarly, for LT commercial category growth by and large is about 10 to 12% and HT IV commercial growth rate ranges from 12 to 15%. By comparing the growth rates of different categories projected by the Board, the Commission is of the view that the demand projections need to be more robust by considering the growth trends in the recent past.



2.15 The pattern of sales for the previous years from 2003-04 to 2011-12 is shown in the figure. It is clearly visible that during the periods of power restrictions (2008-09 and 2010-11) the growth rate of sales has decelerated considerably, deviating from the long term trend. Hence, growth from 2009-10 would depict the recent demand pattern and accordingly, the compounded growth from 2009-10 to 2011-12 would reasonably reflect the growth for the ensuing years. The aggregate of category wise sales projection for 2013-14 based on compounded growth from 2009-10 to 2011-12 is estimated at 18297 MU. In the above estimate, following adjustments are made:

- a. Sales to the new category of 220kV EHT as per the estimates of the Board is 68MU, which is to be added to the total estimated sales for 2013-14.
- b. The energy input projected for 2013-14 by small licensees other than Pudusery Electricity Department (PED), Karnataka State and MES, is 456MU. Total sales for this category including that of PED, Karnataka state and MES for 2013-14 will be 556MU.
- c. As per the estimates of the Board, the total impact of the load shedding for the months of April and May 2013 would be a reduction in sales of about 93 MU.
- d. The Commission has also to consider the impact of the potential solar power initiatives in the State on the sales. The Government has envisaged a programme in which off grid roof top solar systems are being established in 10,000 houses. In addition, there are many investors actively pursuing investment

in solar power generation. Though the total energy generation in comparison with total demand may not be substantial, the Commission is of the view that a potential source, the impact has to be considered in the demand projections. Accordingly it is estimated that about 20MU will be available to meet the demand of domestic sector by implementing the off-grid solar systems. A quantity of approximately 30MU is expected to be saved through energy conservation and DSM measures. Therefore, on a conservative estimate, about 50MU of energy demand can be met from the these sources.

2.16 Based on the above assessments, the energy projection for the year 2013-14 as estimated by the Commission is as shown below:

Table 2.5
Energy Sales for 2013-14 Approved by the Commission

Category	Estimates of the Board with load shedding	Projections Based on 2009-10 to 2011-12 CAGR	Adjustments in sales			Net Approved sales
			Additional sales to Licensees & EHT 220kV	Impact of Load shedding	Impact Renewable energy, Energy conservation and DSM	
	(MU)	(MU)	(MU)	(MU)	(MU)	(MU)
LT Category						
Domestic	9101	9016	0	-50	-30	8936
Commercial	2546	2557	0	-14	-10	2532
Industrial	1171	1131	0	-7		1125
Agricultural	297	318	0	-2		317
Street Lights	307	285	0	-2	-5	279
Sub total LT	13422	13307	0	-74	-45	13188
HT I	1747	1757	0	-9		1748
HT II	130	115	0	-1		114
HT-III	9	8	0	0		8
H- IV	981	1082	0	-5	-5	1072
EHT 66/110/ 220kV	1426	1345	68	0		1413
Railway Traction	166	144	0	0		144
Bulk Supply	549	539	17	-3		553
Sub total HT	5008	4990	85	-18	-5	5051
Total	18430	18297	85	-93	-50	18239

2.17 The above sales estimate of 18239MU is almost same as that of the estimates based on 2012-13 energy input given earlier (18233 MU) in para 2.10.

CHAPTER – 3

REVIEW OF CAPITAL EXPENDITURE

Introduction

3.1 As per the 18th Power Survey, the Peak demand of the State in 2016-17 will be 4669MW and the annual consumption will be 22410 MU. Based on this, the Board is proposing to meet the demand through capacity addition, allocation from CGS and UMPPs, renewable sources like solar and wind, thermal projects using LNG/gas etc. The total addition to internal generation proposed in the period is 248MW. Simultaneously, transmission and distribution system needs to be improved to cater to the demand.

3.2 In the generation plan, the Board proposes installed capacity addition of 179.85MW (546.39MU) by completing 14 hydro-electric projects in the 12th Plan. It is also proposed to tender 570.2MW (1461.45MU) during the period, of which 11 projects with capacity of 68.2MW will be completed by 2016-17. Details of the projects proposed to be completed are given below:

Table 3.1

Hydel Projects Targeted by the Board for Completion during 12th Plan Period

Sl. No.	Project	Capacity (MW)	Generation (MU)	Target year of completion
A	Ongoing Schemes			
1	Peechi	1.25	3.21	2012-13
2	Vilangad	7.50	22.63	2013-14
3	Chathankottunada-II	6.00	14.76	2013-14
4	Chimony	2.50	6.70	2013-14
5	Perumthenaruvi	6.00	25.77	2013-14
6	Barapole	15.00	36.00	2013-14
7	Kakkayam	3.00	10.39	2013-14
8	Sengulam Augmentation		85.00	2013-14
9	Pallivasal Extension	60.00	153.90	2014-15
10	Thottiyar	40.00	99.00	2014-15
11	Adyanpara	3.50	9.01	2014-15
12	Vellathooval	3.60	12.17	2014-15
13	Poringalkuthu SHP	24.00	45.02	2015-16
14	Anakkayam	7.50	22.83	2016-17
	Total	179.85	546.39	
B	New schemes to be tendered and completed during 12th Plan			

15	Olikkal	4.50	10.18	2014-15
16	Poovaramthode	2.70	5.88	2014-15
17	Upper Kallar	2.00	5.15	2015-16
18	Chembukadavu-III	6.00	14.92	2015-16
19	Ladrum	3.50	10.47	2015-16
20	Peechad	3.00	7.73	2015-16
21	Bhoothathankettu	16.00	60.00	2016-17
22	Western Kallar	5.00	14.29	2016-17
23	Marmala	7.00	16.72	2016-17
24	Chathankottunada-I	3.50	7.98	2016-17
25	Pazhassi Sagar	15.00	42.14	2016-17
	Total	68.20	195.46	

3.3 The wind generation potential in the State is about 600MW. The Government has signed a MOU with NTPC to develop 200 MW of wind power in the State. The complete harnessing of wind capacity is proposed to be completed by 2030. The Board is promoting off-grid solar installation with battery backup as an alternate source of energy. The Board is planning to offer generation based incentives for solar developers, in addition to promoting net metering facility. It is proposed to establish solar photo voltaic systems in all government buildings/PSUs with the support of government. A total of 300MW from solar sources is planned in 12th plan period. In the case of thermal projects using gas/LNG the proposals are reported to be under finalisation. The transmission plan for 12th plan period has been finalized and its abstract is given below:

Table 3.2
Expected Transmission Capacity Addition under 12th Plan Period

Substations	
220 kV substations	6 Nos
Up gradation of 110 kV substations to 220 kV	5 Nos
110 kV substations	32 Nos
Up gradation of 66 kV substations to 110 kV	33 Nos
66 kV substations	11 Nos
Up gradation of 33 kV substations to 66 kV	1 No.
33 kV Substations	44 Nos
Total	132 Nos.
Lines (ckt km)	
220 kV Lines	365 km
110 kV Lines	1225 km
66 kV Lines	86 km
33 kV Lines	540 km
Total	2216km

3.4 In Distribution, a total of 17 lakh new service connections are planned for the 12th plan. Further, 14,825 km of new 11kV lines, 23250km of LT lines and 18093 new distribution transformers will be installed during the period the abstract of which is shown below:

Table 3.3
Details of the Distribution Works Proposed during 12th Plan Period

	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Service Connections (Nos)	400000	350000	350000	300000	300000	1700000
11 kV lines (km)	3325	3250	3000	2750	2500	14825
LT lines (km)	5000	5000	4500	4500	4250	23250
Distribution Transformers (Nos)	3843	3750	3750	3500	3250	18093
1-ph. to 3-p. conversion (km)	4405	4500	4500	4500	4500	22405
Re-conductoring HT (km)	659	750	850	1000	1000	4259
Re-conductoring LT (km)	5345	5500	5500	5000	5000	26345
LT Arial Bunched Conductors (km)	940	1000	1000	1500	1500	5940
HT Arial Bunched Conductors (km)	416	500	500	600	750	2766
Meter changing (Nos)	1030566	750000	700000	700000	650000	3830566

The summary of the total year wise targets for the 12th plan is as shown below:

Table 3.4
Summary of the Capital Works Proposed during 12th FY Plan

		2012-13	2013-14	2014-15	2015-16	2016-17	Total
A. Generation- own hydel							
Capacity Addition	MW	1.25	40	114.3	38.5	54	248.05
	MU	3.21	201.25	290.14	83.3	163.96	741.86
B. Transmission							
Substations (No.)							
220kV	NEW	1		1	1	3	6
	UPGN		1		3	1	5
110kV	NEW	5	10	8	6	3	32
	UPGN	2	10	7	10	4	33
66kV	NEW	3	6	3			12
	UPGN						
33kV	NEW	12	16	10	3	3	44
	UPGN						
Lines (Ckt-km)							
220kV		60	0.5	91.5	31	181.5	364.5
110kV		155	300.55	298	321.5	150.2	1225.25
66kV		4.5	0	81.5	0	0	86
33kV		158.8	154	141.5	60.35	26.1	540.75
C. Distribution							
No. of Service connections		400000	350000	350000	300000	300000	1700000
11 kV lines km		3325	3250	3000	2750	2500	14825
LT lines km		5000	5000	4500	4500	4250	23250
Transformers (No.)		3843	3750	3750	3500	3250	18093

Based on the above, the financial outlay for the 12th plan is firmed up as shown below:

Table 3.5
Summary of the Financial Target Proposed during 12th FY Plan
(Rs in crore)

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	12 th Plan Total
Generation	375.62	372.87	613.71	1089.95	1294.85	3747.00
Transmission	305.00	293.00	300.00	315.00	325.00	1538.00
Distribution	710.00	851.58	740.00	550.00	500.00	3351.58
Others	6.50	4.00	4.70	5.15	5.60	25.95
Total	1397.12	1521.45	1658.41	1960.10	2125.45	8662.53

3.5 The above target also includes Rs.500 crore and Rs.750 crore in 2015-16 and 2016-17 respectively for gas based thermal project proposed at Brahmapuram. The summary of the capital works programme for the year 2013-14 and the revised estimates for 2012-13 prepared by the Board is shown below:

Table 3.6
Revised Capital Outlay for the Year 2012-13 And Proposed Outlay for 2013-14

Particulars	Revised outlay for 2012-13	Proposed outlay for 2013-14
	(Rs. Cr)	(Rs. Cr)
Generation	273.60	372.87
Transmission	232.35	293.00
Distribution	607.30	851.58
Others	5.50	4.00
Total	1118.75	1521.45

3.6 The investment plan for 2012-13 is revised downwards and for 2013-14, Rs.1521.45 crore is planned for capital investment. The Board has sought time till January 2013 for submitting the detailed capital works programme for 2013-14. Though the Board has given additional details in February 2013 and April 2013, the information is not comprehensive enough.

3.7 In the case of transmission, revised programme for 2012-13 and plan for 2013-14 is as shown below:

Table 3.7
Summary of the Physical Target of Transmission Works

Particulars	Revised target for 2012-13	Target for the year 2013-14
Substations	(Numbers)	
220 kV	1	1
110 kV	5	10
66 kV	3	3
33 kV	7	5
Sub total	16	19
Lines	(Ckt . Kilometers)	
220 kV	113.17	26
110 kV	97.17	129.74
66 kV	2.53	0.30
33 kV	68.6	72.95
Sub total	281.47	228.99

The summary of distribution works proposed for 2013-14 is as shown below:

Table 3.8
Summary of the Distribution Works – Proposed for the Year 2013-14

	Particulars	Unit	Normal	Work proposed through consumer contribution	RAPDRP	RGGVY	Other funded	Total
1	New service connection	Nos	55384	266857		21831	5928	350000
2	11 kV line extension	Km	2093	241	497	264	105	3250
3	Distribution transformer	Nos	2558	718	365	6	108	4354
4	LT line extension	km	1537	6502	47	1266	1017	10369
5	Single phase to three phase conversion	km	3200	944	613	55	188	5000
6	Faulty meter replacement	Nos	677785	10610	46171		15434	750000

Objections of Stakeholders

3.8 The HT-EHT Association and M/s HNL stated that capital expenditure programme of the Board lacks sufficient details. No information is provided on the details of spill over projects, causes of delay and impact in terms of cost of delay. It is also not clear on the status of the capital expenditure incurred on these projects in the previous years. The Association stated that requirements under the regulation regarding capital expenditure has not been followed in this year also. In the absence of data from the Board, it is not possible to ascertain the requirements of the investment. In the absence of supporting data, the Association requested that

a realistic figure based on the past achievement may be allowed provisionally. As per the performance in the past, the Association stated that a maximum of Rs.1019 crore may be allowed as capital expenditure for the year. The Standing Council of Trade Unions stated that generally achievement in Capital expenditure is only 50 to 60% of the projected figure. Hence capital expenditure may be allowed after considering the actuals for 2012-13. Cochin Chamber of Commerce, Employee unions in M/s Binani Zinc Limited have also commended on similar lines. M/s TCC Limited and its employee Unions stated that the Commission should direct the Board to get a scheme wise audit of capitalisation of past 10 years. It should cover the date of capitalisation, cost of assets, mode of financing, including spill over projects, the causes for delay and its impact. In the past the Board had not achieved the target on capital expenditure. Hence the Commission should proportionately reduce the capital expenditure. On the other hand, Shri. Shaji Sebastain, representing KSSIA stated that capital outlay proposed is insufficient.

Analysis and Decision of the Commission

3.9 The Board has in their ARR&ERC petition proposed capital expenditure for the year 2013-14 as Rs.1521.45 crore. Subsequently, the estimates were revised as per the letter dated 22-2-2013, as shown below:

Table 3.9
Revised Function wise Capital Outlay Proposed for the Year 2013-14

Particulars	Capital Outlay for the Year		
	As per ARR	Based on details of work proposed	Difference
	(Rs.Crore)	(Rs.Crore)	(Rs.Crore)
Generation	372.87	419.45	-46.58
Transmission	293.00	293.00	0.00
Distribution	851.58	800.00	51.58
Others	4.00	9.00	-5.00
Total	1521.45	1521.45	0.00

3.10 The revision is mainly in generation and distribution sectors. The Board also submitted additional details vide letter dated 2-4-2013 on capital expenditure programme covering R-APDRP and RGVVY projects.

3.11 Under Generation, the details given by the Board include details of estimated cost, date of commencement, scheduled date of completion, cumulative expenditure as

on 31-1-2013, and anticipated expenditure for 2013-14. The capital expenditure proposed for 2013-14 is under following heads

Table 3.10
Details of Capital Expenditure Proposed in Generation for 2013-14

Projects	Amount proposed in 2012-13	Amount proposed in 2013-14	
Ongoing schemes	237.19	242.80	14 projects
New schemes	35.55	29.95	24 projects
Completed schemes	2.30	24.36	14 projects
Thermal projects (BDPP/KDPP)	5.33	15.54	
Renovation & modernization	6.25	42.10	(5 schemes)
Survey & investigation , Research etc.,	4.25	2.00	
Miscellaneous	84.75	62.70	
Total	375.62	419.45	

- 3.12 The Commission has examined the details given by the Board. The details given substantially differ in terms of project cost, target date of completion etc., It is also noticed that details of some projects have not been included. 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.
- 3.13 Under transmission, the Board has given details of capital works relating to substations and lines. However, the date of commencement of each work is not available. 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. The total allocation for the year is proposed as Rs.293 crore.
- 3.14 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.800 crore proposed, Rs. 254.72 crore is proposed under normal development works, Rs.161.24 crore is under deposit works and Rs.339.63 crore is under Central scheme (R-APDRP, RGGVY etc.). The Board vide its letter dated 22-02-2013 has revised the targets for distribution works as shown below:

Table 3.11
Summary of the Distribution Works Proposed for the Year 2013-14

Sl. No.	Work	Quantity					
		Normal	Estimated Cost	RAPDRP	RGGVY	Other Funded	Total
1	New Service Connection (Nos.)	50493	378942	0	22782	5913	458130
2	11 kV Line Extension (km)	2040	203	636	243	108	3230
3	Transformer Installation (Nos.)	2558	644	450	333	115	4100
4	LT Line Extension (km)	941	1256	151	1285	867	4500
5	1-ph. to 3-ph. Conversion (km)	3175	629	820	55	184	4863
6	Meter Replacement (Nos.)	688454	7709	390253	0	14334	1100750
7	LT Re conductoring (km)	4100	12	650	6	262	5030
8	HT Re conductoring (km)	689	0	152	1	13	855

3.15 While providing the details under distribution, financial estimate is not provided under different heads. Accordingly, the amount required for each is not available for comparison. It is also noted that the Board has initially proposed 3.5 lakhs service connections, which is now revised to 4.5 lakhs. The sales estimates and meter rental estimates are also based on the initial estimate.

3.16 As per the details given above the abstract of total capital expenditure for 2013-14 given is as follows:

Generation	:	Rs. 419.45 crore
Transmission	:	Rs. 293.00 crore
Distribution & others	:	Rs .809.00 crore
Total	:	Rs. 1521.45 crore

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. 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 and loss reduction. Hence, at this stage detailed analysis of the capital expenditure programme for 2013-14 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. The Commission for the purpose of ARR&ERC for 2013-14, decided to consider the past achievements in the capital expenditure programme. Though the Board has proposed Rs.1521.45 crore as capital expenditure, in the recent history, the Board has not achieved such large target.

Further, the progress in 2012-13 is also not satisfactory due to financial crunch. Considering all these aspects, the Commission would adopt the reasonable estimate of capital expenditure for 2013-14 as Rs.1000 crore. It is to be pointed out that the amount specified is not a ceiling on capital expenditure and the Board may in its wisdom invest more in projects in a prudent manner in 2013-14, and submit sufficient supporting details for approval.

CHAPTER – 4

TRANSMISSION AND DISTRIBUTION LOSS

Introduction

4.1 The internal loss level projected for 2013-14 is 14.91% compared to 15.23% estimated for 2012-13. KSEB in its petition has stated that due to its sustained efforts in between 2001-02 and 2009-10, T&D loss was reduced by 14.67%, as shown below:

Table 4.1
T&D Loss Reduction Achieved by the Board

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

4.2 In the petition, the Board claimed that it is one of the few distribution utilities in the country having effected 100% metering that could reduce the total T&D loss level to 15.65%. According to KSEB, from 2001-02 onwards the total savings in cost of generation and power purchase by way of T&D loss reduction are to the tune of Rs.1447 crore

Reports on Loss Studies

4.3 In compliance to the directions issued by the Commission in ARR&ERC order for 2012-13, the Board has reported the results of the T&D loss studies. Based on the simulations taken for three time zones in 2011-12, the estimated peak losses upto 33kV is reported as 5.74% to 6.03%. According to the Board, average transmission loss upto 110kV is more than 3.8% and that of 66kV is more than 5.7%. In the case of 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%. Though the Commission has directed the Board to segregate the technical and commercial losses, the details of the same have not been provided.

T&D Loss Reduction Efforts of the Board for the Year 2012-13 and 2013-14

4.4 As per the data provided by the Board from 2003-04, several substations and lines have been commissioned in the transmission system as shown below:

Table 4.2
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
Substations	Numbers								
220 kV	1	1	1	-	1		2		
110 kV	6	8	4	2	4	2	9	5	3
66 kV	3	2	4	3	1			1	
33 kV	7	15	10	10	13	16	18	7	7
Sub total	17	26	19	15	19	18	29	13	10
Lines	Kilometers								
220 kV	4.3	15	56		1.01		18.3		11.38
110 kV	154.6	30	55	30	56.38	17.5	48.3	65.2	0.89
66 kV	8.4	5	13	15	11.13			0.1	
33 kV	95.4	157	131	95	105.44	169.3	199.2	70.8	75.65
Sub total	262.7	207	255	140	173.96	186.8	265.8	136.1	87.92

4.5 In addition to the new substations commissioned in 2011-12, the capacity of the existing substations has been enhanced as follows.

Table 4.3
Capacity Enhancement Proposed for Existing Substations

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

4.6 The target for new substations and lines for the year 2012-13 and 2013-14 proposed by the Board is given below:

Table 4.4
Details of Substations and Lines Proposed for the Year 2012-13 and 2013-14

Particulars	Revised target for 2012-13	Target for the year 2013-14
Substations	(Numbers)	
220 kV	1	1
110 kV	5	10
66 kV	3	3
33 kV	7	5
Sub total	16	19
Lines	(Kilometers)	
220 kV	113.17	26
110 kV	97.17	129.74
66 kV	2.53	0.30
33 kV	68.6	72.95
Sub total	281.47	228.99

4.7 Under distribution, the Board has proposed following system improvement and loss reduction works:

Table 4.5
Details of Distribution Works Proposed for the Year 2012-13 and 2013-14

Work	2012-13			Target for 2013-14
	Target	Achievement till Sep-2012	Revised Target	
11 kV Line extension (km)	3500	992	3325	3250
Transformer installation (Nos.)	4500	1545	3843	3750
LT Line extension (km)	5000	1793	5000	5000
1-ph to 3-ph Conversion (km)	6000	2519	4405	4500

4.8 Revised target for replacement of faulty meters for the year 2012-13 was 10.30 lakhs meters and the target for the year 2013-14 is 7.50 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.

4.9 According to the Board, the T&D loss for the year 2011-12 is 15.65%, which is inclusive of transmission loss of 5.7% and balance 11.78% of distribution loss. The Board has revised the T&D loss target for the year 2012-13 as 15.23%, which is 0.43% lower than the actual loss for 2011-12. For 2013-14, the proposed loss target is 14.91%, which shows a reduction of about 0.32% over that of 2012-13.

4.10 The Board has stated that annual collection efficiency of HT&EHT consumers for 2011-12 is 97.16% and that of LT consumers is 98.11%. The overall collection efficiency is 97.83%. At 98% collection efficiency, the overall AT&C loss target for the year 2012-13 is 16.93% and that of 2013-14 will be 16.61%.

Objections of Stakeholders:

4.11 The Chalakudi Puzha Samrakshana Samithi stated that the Board should publish the details of T&D loss study for the information of the public. The Southern India Mills Association in their objections pointed out that the performance of the Board is poor, as they attributed this to the substantial increase in number of cases booked for anti-theft activities in between 2002-03 to 2011-12. The HT-EHT Association pointed out the importance of appropriate loss levels and loss reduction trajectories considering the high marginal cost of electricity. They welcomed the study report on losses and stated that complete details of the study have to be made available to the public. According to them, the Board did not explain why the loss study has not been conducted in different load scenarios as the system peak cannot be used to assess the actual voltage level losses.

4.12 The Association pointed out that even after hefty capital investment approved over the years, and that proposed for ensuing years, there is considerable under performance in loss reduction. The Board is proposing the loss reduction from the actual levels which is an indication of consistent underperformance in loss reduction. Since the loss levels are below 15%, the Association suggested that loss reduction target shall be 1% from approved losses of 14.81% in 2012-13. Hence the loss target for 2013-14 shall be 13.81%. As per the estimates of the Association, the total energy requirement for 2013-14 would be 20825MU only. They suggested that, by assuming the losses in base load as 1/4th of the peak load losses, the total losses for open access consumers should be taken as 2.87% based on 7 hours of peak and 17 hours of non-peak.

4.13 The Association further pointed out the importance of linking capacitor addition and peak load. According to the Association, the ratio of shunt capacitors to peak

demand is lowest in the State compared to other southern States, despite the fact that the State has 49% of the total consumption accounted by domestic sector, where power factor is low.

- 4.14 Cochin Chamber of Commerce, Binani Zinc Employees Union, Binani Zinc employees organization, Cominco Binani Zinc Employees Association, and Kerala Newsprint Employees Union have also by and large shared the opinion of the HT-EHT Association, but pointed out that the Board has replaced about 65 lakh meters in between 2003-04 to 2011-12. It is deplorable that the Board does not have a plan for replacing faulty meters. The Commission's directions in this regard, have not been complied with, by the Board. The Commission should give a time line for replacing faulty meters in the system, otherwise the Board has to be penalised for this. They suggested that T&D loss for 2013-14 has to be fixed at 13.4%.
- 4.15 M/s TCC limited and its Trade Unions & Officers Unions stated that the directions of the Commission on loss study have not so far been implemented by the Board and the Board could not meet the loss reduction targets set by the Commission. They pointed out that the loss target has to be not less than 10% of the loss levels as suggested by the Forum of Regulators. Hence the loss reduction target shall be 1.48% and the loss target for 2013-14 shall be 13.33%.

Analysis of the Commission

- 4.16 The Board has proposed a loss level of 14.91% for the year 2013-14, which is 0.32% lower than the (projected as 15.23%) estimates for 2012-13 of the Board. The Commission in its Order on ARR&ERC for the year 2011-12, had approved a loss level of 15.31% for the year 2011-12. The loss reduction target for the year 2011-12 was 0.69% as proposed by the Board. The loss level of 15.32% proposed by the Board for 2012-13 is almost same as the level approved by the Commission for 2011-12. As pointed out in previous years, the loss level and loss reduction levels proposed by the Board are only empirical which lack the support of appropriate studies, data, and materials. 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.”

4.17 The Commission had also directed in the order that the Board should submit a workable action plan within 6 months to replace the faulty meters with good quality meters. The Commission had also directed that an interim measure the Board should target to reduce the faulty meters in the system by 2% of the total connections this year. However, the Board did not comply with these directions entirely. The Board reported that 5.5 lakhs faulty meters were replaced as on 30-11-2012 and about 4 lakh meters will be replaced in the remaining period of 2012-13.

4.18 In 2012-13, the Commission 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.”

4.19 Though the Board has given its report on the study on T&D loss, the same was not complete and not in a consolidated form as directed. In the case of transmission, results of sample studies on power loss were given, but the applicability of such studies for the present framework is doubtful. The attempts made to estimate the losses in distribution are also not satisfactory and objective.

4.20 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.

4.21 As per the details given by the Board, it is noted that the progress reported in capital works in transmission is comparatively low and the targets proposed in the ensuing years for most of items were repeatedly revised downwards as the progress was tardy. The details are given below:

Table 4.6
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

4.22 In 2010-11, the Commission has fixed the loss reduction target at 0.92% as proposed by the Board. However as per the actual data, the loss reduction achieved by the Board is much higher than the target level i.e., 1.62%. The following table shows the performance of the Board in loss reduction over the years.

Table 4.7
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	0.43*
*proposed to be achieved as per ARR petition			

4.23 As against the approved loss reduction target of 0.5% in 2012-13, the Board has revised the target as 0.43%. In the present petition, the Board has proposed a lower loss reduction target of 0.32% for 2012-13. Over the years, there had always been divergences in the proposed, approved and actual loss and loss reduction targets as shown below:

Table 4.8
Loss Targets and Loss Reduction Targets Approved and Actuals

Year	Loss Targets				Loss Reduction Targets			
	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	15.23		0.25	0.50	0.43	
2013-14	14.91				0.32			

4.24 Considering the past achievements, there is a possibility of achieving 0.5% reduction if concerted efforts are made. 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 2013-14 is fixed based on the loss level of 15.23% estimated by the Board for 2012-13. Hence the approved T&D loss for 2013-14 shall be 14.73% (15.23%-0.5%).

Table 4.9
Approved T&D Loss for 2013-14

	Proposed in the ARR	Approved by the Commission
Energy sales (MU)	18428	18239
Internal loss (%)	14.91%	14.73%
Net Energy input to KSEB System (MU)	21657	21390

AT&C Loss

4.25 The Board has reported the collection efficiency of 97.2% for 2010-11 and 97.83 for 2011-12. The revised AT&C loss levels proposed by the Board is 16.93% for 2012-13 compared to 17.70% proposed in the previous year. AT&C loss proposed for 2013-14 is 16.61% based on the collection efficiency of 98%. The Commission had fixed collection efficiency as 99% for 2012-13, which will be continued for 2013-14 also Accordingly the AT&C loss target for 2013-14 shall be 15.58%

Table 4.10
Approved AT&C Loss for 2013-14

	2010-11	2011-12	2012-13	2013-14	
	Actual	Actual	Approved	Proposed by the Board	Approved by the Commission
T&D loss	16.09%	15.65%	14.81%	14.91%	14.73%
Collection efficiency	97.20%	97.83%	99.00%	98.00%	99.00%
AT&C loss	18.44%	17.48%	15.66%	16.61%	15.58%

CHAPTER – 5

ANALYSIS OF ANNUAL REVENUE REQUIREMENTS

Introduction

5.1 The Board has projected an Aggregate Revenue Requirement (ARR) of Rs.11237.11 crore for 2013-14 including the return on equity. While projecting the expenses, the power restrictions and load shedding imposed in the months of April and May, 2013 are also taken into consideration. The details of expenses under different heads proposed by the Board and the approach of the Commission are explained in the ensuing paragraphs.

Generation and Power purchase

5.2 Total energy requirement for 2013-14 estimated by the Board is 21657 MU. The peak demand estimated for the year is 3515 MW against 3538MW projected for 2012-13. The Board expects that during the first half year of 2013-14, the energy demand will increase by 5% and thereafter by 9% during the 2nd half year ending 31-3-2014. Similarly, the peak demand will increase by 5% and 6% respectively during the above period. The average daily demand is estimated to be 59.3MU, in comparison with 47.8MU in 2010-11, 51.9MU in 2011-12 and about 55.46MU in 2012-13.

Internal Generation

5.3 Based on the 20 year average inflow from 1992-93 to 2011-12, energy availability from hydro sources is estimated at 6571MU. With the available storage as on 28-12-2012 and average monsoon for the remaining months of the water year 2012-13, the average daily hydro generation for the remaining months of the water year is estimated at 11.90MU. However, with 40% reduction in inflow, the hydro availability may be limited to 10.29MU per day for the months of April and May 2013-14. Accordingly, the targeted generation from the storage stations in April 2013 is estimated at 11.83MU and for May 2013 at 11.73MU. The total generation possible for April and May 2013 will be 718MU. The Board has estimated the hydro generation potential for 2013-14 based on the 20 year inflow at 18.4MU per day from June 2013 onwards. Accordingly, the targeted hydro generation is estimated at 6294MU for the year 2013-14. The generation from small hydro sources is estimated at 173.86 MU. Hence, the total hydro generation for the year 2013-14

would be 6468.16 MU. Considering the auxiliary consumption of 0.5% of gross generation, net availability of energy from hydel sources has been projected at 6436MU for 2013-14 and per day availability of hydro energy is estimated to be 17.63MU for the year.

Purchase of Power from Central Generating Stations (CGS)

5.4 As stated in the petition, the present allocation from Central Generating Stations is about 1227MW with effect from 1-12-2012. According to KSEB, new stations expected to be commissioned in 2013-14 are as shown below:

Table 5.1
New CGS Expected to be Commissioned during 2013-14

Name of the station	Total capacity	Allocation to KSEB	Allocated capacity	Expected date of commercial operation
	(MW)	(%)	(MW)	
Kudankulam- 2nd unit	1000	13.3	133	Jul-13
NLC- Exp- Stge-II	500	14	70	1 st unit by April-2013 and 2 nd by Dec-2013
Vallur JV project (TN)	1500	3.27	49	2nd unit by Aug-2012
Tuticurin JV	500	7.25	36	by Dec-2013
Total	2500		288	

5.5 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 4.10%. The estimate of total energy availability from central generating stations estimated by the Board is as shown below:

Table 5.2
Energy Availability from CGS Estimated by the Board for the year 2013-14

No.	Power Plant	IC (MW)	Allocation	Allocated Capacity to KSEB (MW)	Aux Consumption (%)	Target PLF (%)	Energy availability for the year 2013-14 (MU)	PGCIL losses (MU)	Net Energy availability at KSEB bus (MU)
1	TALCHER - Stage II	2000	21.60%	432.0	6.50%	88.00%	3113.74	127.66	2986.08
2	NLC- Exp- Stage-1	420	16.38%	68.8	9.50%	80.00%	436.32	17.89	418.43
3	NLC-II- Stage-1	630	10.43%	65.7	10.00%	75.00%	388.54	15.93	372.61
4	NLC-II- Stage-2	840	11.14%	93.6	10.00%	75.00%	553.31	22.69	530.63
5	RSPTS Stage I & II	2600	12.45%	323.6	6.50%	89.00%	2359.28	96.73	2262.55
6	MAPS	440	5.41%	23.8	10.00%	68.50%	128.55	5.27	123.28
7	KAIGA Stg I	440	9.33%	41.1	10.00%	75.00%	242.74	9.95	232.79
8	KAIGA Stg II	440	8.65%	38.1	10.00%	75.00%	225.05	9.23	215.82

9	Simhadri Exp	1000	8.76%	87.6	6.50%	85.00%	609.87	25.00	584.87
10	Farakka STP	1600	1.02%	16.3	6.50%	85.00%	113.48	4.65	108.83
11	Kahalgon	840	1.01%	8.5	6.50%	85.00%	59.18	2.43	56.75
12	Talcher-I	1000	1.02%	10.2	10.50%	82.00%	65.58	2.69	62.89
13	Kudamkulam	2000	13.30%	266.0	10.00%	75.00%	1376.79	56.45	1320.34
13	NLC - II Exp	500	14.00%	70.0	10.00%	80.00%	293.93	12.05	281.88
14	Vallur JV	1500	3.27%	49.1	7.50%	85.00%	187.58	7.69	179.89
15	Tuticorin JV	500	7.25%	36.3	7.50%	85.00%	82.08	3.37	78.72
				1630.5			10236.03	419.68	9816.35

Cost of Energy from Central Generating Stations:

5.6 The Board has stated that CERC has approved the revised tariff for the period 2009 to 2014. The fixed cost commitment on CGS for 2013-14 is estimated based on the revised CERC orders. 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 2013-14

Sl No.	Power Plant	Installed Capacity (MW)	Allocation to KSEB	Total Fixed cost for the year 2013-14 (Rs. Cr)	Fixed cost to KSEB (Rs. Cr)
1	TALCHER - Stage II	2000	21.60%	1102.37	238.11
2	NLC- Exp- Stage-1	420	16.38%	360.63	59.07
3	NLC-II- Stage-1	630	10.43%	231.24	24.12
4	NLC-II- Stage-2	840	11.14%	314.82	35.07
5	RSPTS Stage I & II	2600	12.45%	1205.39	150.05
6	MAPS	440	5.41%		26.19
7	KAIGA Stg I	440	9.33%		72.95
8	KAIGA Stg II	440	8.65%		67.64
9	Simhadri Exp	1000	8.76%	1188.24	104.09
10	Farakka STP	1600	1.02%		9.65
11	Kahalgon	840	1.01%		5.03
12	Talcher-I	1000	1.02%		5.57
13	Kudamkulam	2000	13.30%		447.46
13	NLC - II Exp	500	14.00%		35.27
14	Vallur JV with	1500	3.27%		28.14
15	Tuticorin JV	500	7.25%		12.31
	Total				1320.72

5.7 The Board has taken the average variable cost of CGS for the period from April - 2012 to September-2012 for estimating the variable cost for the year 2013-14. The month wise details of variable cost of CGS for the period from April-2012 to September-2012 are given below.

Table 5.4
Variable Cost of CGS for the period from April to September 2012

Sl No	Source	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Average
1	Talcher Stage-II	1.58	1.79	1.70	1.62	1.24	1.15	1.51
2	NTPC-RSTPS	1.61	1.84	1.70	1.61	1.44	1.47	1.61
3	NLC-Stage-1	1.99	2.05	2.06	2.07	2.06	2.06	2.05
4	NLC-Stage-II	1.99	2.05	2.06	2.07	2.06	2.06	2.05
5	NLC Expansion	1.85	1.85	1.87	1.85	1.87	1.90	1.87

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. 3.04 per unit during the period from April-2012 to September-2012. Fixed cost of new projects viz., Vallur JV and Tuticorin JV, the fixed cost is assumed as Rs.1.50 per unit and that of NLC II expansion, fixed cost is taken as Rs.1.20 per unit. The variable cost of all other new projects are taken as Rs.2.00 per unit. The estimated cost of power from CGS for 2013-14 given by the Board is as shown below:

Table 5.5
Estimated Cost Projected by the Board for Power Purchase from CGS for 2013-14

No.	Power Plant	Energy schedule at generator bus	External loss	Net Energy input into KSEB system	Fixed Cost	Variable cost	Total cost	Avg.rate (excl. incentive, transmission charges, other levies) etc.
		(MU)	(MU)	(MU)	(Rs. Cr)	(Rs.Cr)	(Rs.Cr)	(Rs/unit)
1	TALCHER - Stage II	3113.74	127.66	2986.08	238.11	467.06	705.17	2.36
2	NLC- Exp- Stage-1	436.32	17.89	418.43	59.07	78.10	137.17	3.28
3	NLC-II- Stage-1	388.54	15.93	372.61	24.12	76.15	100.27	2.69
4	NLC-II- Stage-2	553.31	22.69	530.63	35.07	108.45	143.52	2.70
5	RSPTS Stage I & II	2359.28	96.73	2262.55	150.05	368.05	518.10	2.29
6	MAPS	128.55	5.27	123.28	26.19	0.00	26.19	2.12
7	KAIGA Stg I	242.74	9.95	232.79	72.95	0.00	72.95	3.13
8	KAIGA Stg II	225.05	9.23	215.82	67.64	0.00	67.64	3.13
9	Simhadri Exp	609.87	25.00	584.87	104.09	113.44	217.53	3.72
10	Farakka STP	113.48	4.65	108.83	9.65	27.58	37.22	3.42
11	Kahalgon	59.18	2.43	56.75	5.03	14.38	19.41	3.42
12	Talcher-I	65.58	2.69	62.89	5.57	15.93	21.51	3.42
13	Kudamkulam	1376.79	56.45	1320.34	447.46	0.00	447.46	3.39
13	NLC - II Exp	293.93	12.05	281.88	35.27	58.79	94.06	3.34
14	Vallur JV with	187.58	7.69	179.89	28.14	37.52	65.65	3.65
15	Tuticorin JV	82.08	3.37	78.72	12.31	16.42	28.73	3.65
	Total	10236.03	419.68	9816.35	1320.72	1381.86	2702.58	2.75

Transmission Charges

5.9 The Board stated in the petition that new methodology for sharing the transmission charges and losses has been notified by CERC, which is effective from 01-07-2011. For the initial two years, 50% of the transmission charges payable to the PGCIL are being shared based on the new methodology and 50% based on the prevailing practices. The total transmission charges payable to PGCIL is estimated at Rs.343.39 crore for 2013-14.

Table 5.6
Transmission Charges Estimated by KSEB

Sl No	Items	2012-13		Estimate for the year 2013-14
		As per the order on ARR	Revised estimate	
		(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
1	Southern region			
	Transmission charges	293.22	266.33	308.96
	Incentives etc	20.41	20.41	26.25
	Sub total	313.63	286.74	335.21
2	NTPC Kayamkulam Transmission charges	12.2	8.18	8.18
3	Total transmission charges (excluding income tax, incentives etc)	325.83	294.92	343.39

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 are shown below:

Table 5.7
Other Charges Payable to CGS Estimated by the Board

Source	2009-10	2010-11	2011-12	2012-13	2013-14
	(actual)	(actual)	(actual)	(Est)	(est)
	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
Generators					
Thalcher - II	118.37	12.36	10.79	11.00	11.38
NLC-II - Stage-1	0.84	8.25	8.55	5.88	7.56
NTPC- RSTPS	25.06	7.73	18.38	17.06	14.39
NLC-II - Stage-2		12.03	14.82	13.43	13.43
MAPS	0.3	0.07	0.95	0.44	0.49

Source	2009-10 (actual)	2010-11 (actual)	2011-12 (actual)	2012-13 (Est)	2013-14 (est)
	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
NLC (Exp)	0.06	54.90	29.19	28.05	28.05
Kayamkulam		32.90			
KPCL					
Kaiga	0.89	0.33	2.80	1.34	1.49
PGCIL					
Eastern Region					
Southern Region	2.25	38.25	20.25	20.25	26.25
Kayamkulam					
Total	147.77	166.82	105.73	97.44	103.03

5.11 As shown above, the Board has estimated Rs.103.03 crore as the other charges payable to CGS. Based on the above estimates, the total cost of power purchase from central generating stations estimated by the Board is given below:

Table 5.8
Total Cost of Power Purchase from CGS Estimated by the Board

Source	Energy Purchased	External Loss	Net Energy Input to KSEB T&D system	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	127.66	2986.08	238.11	11.38	467.06	716.55
NLC- Exp- Stage-1	436.32	17.89	418.43	59.07	28.05	78.10	165.22
NLC-II- Stage-1	388.54	15.93	372.61	24.12	7.56	76.15	107.83
NLC-II- Stage-2	553.31	22.69	530.63	35.07	13.43	108.45	156.95
RSPTS Stage I & II	2359.28	96.73	2262.55	150.05	14.39	368.05	532.49
MAPS	128.55	5.27	123.28	26.19	0.49	0.00	26.68
KAIGA Stg I	242.74	9.95	232.79	72.95	1.49	0.00	74.44
KAIGA Stg II	225.05	9.23	215.82	67.64	0.00	0.00	67.64
Simhadri Exp	609.87	25.00	584.87	104.09	0.00	113.44	217.53
Farakka STP	113.48	4.65	108.83	9.65	0.00	27.58	37.22
Kahalgon	59.18	2.43	56.75	5.03	0.00	14.38	19.41
Talcher-I	65.58	2.69	62.89	5.57	0.00	15.93	21.51
Kudamkulam	1376.79	56.45	1320.34	447.46	0.00	0.00	447.46
NLC - II Exp	293.93	12.05	281.88	35.27	0.00	58.79	94.06
Vallur JV	187.58	7.69	179.89	28.14	0.00	37.52	65.65
Tuticorin JV	82.08	3.37	78.72	12.31	0.00	16.42	28.73
Sub total (CGS)	10236.03	419.68	9816.35	1320.72	76.79	1381.86	2779.37
Transmission charges							
CGS				308.96	26.25		335.21
Kayamkulam				8.18	0.00		8.18
Sub total				317.14	26.25		343.39
Total	10236.03	419.68	9816.35	1637.86	103.04	1381.86	3122.76
Average cost of power from CGS at KSEB periphery							3.18/kWh

5.12 As per the estimates of KSEB, the average cost of power purchase from CGS would be at Rs 3.18 per unit as against Rs 2.21 per unit during 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 the Board for the year 2013-14 are as given below:

Table 5.9
Generation & Cost for Power Purchase from Wind and Other Small IPPs Proposed by the Board

Source	Capacity (MW)	Generation target (MU)	Per unit cost (Rs/ kWh)	Total cost (Rs.Cr)
Wind IPPs	33.68	73.54	3.14	23.09
Ullumkal SHP	7.00	34.00	2.00	6.80
MP steel- Co generation plant	8.00	40.80	2.31	9.42
Iruttikkianam SHP- Stage-1	3.00	7.88	2.70	2.13
Iruttikkianam SHP- Stage-2	1.50	3.60	2.96	1.07
PCBL	6.00	36.00	3.50	12.60
Total	59.18	195.82		55.11

5.14 From the small IPPs about 196MU is proposed to be purchased at a cost of Rs.55.11 crore.

Purchase from Traders:

5.15 For meeting the demand in 2013-14, the Board is planning to import energy through traders by entering into contracts and also by booking medium term open access in advance. The Board stated that due to the constraints of interstate transmission system in S2 region, the import capability is limited. The firm import capability through interstate feeders of KSEB is 1800MW including the share from CGS. The execution of interstate transmission line from Tirunelveli –Pallikkara for evacuating power from Kudamkulam NPS is slow due to local resistance in various localities in the State. KSEB reports that during the months of July to October (monsoon months), the night off-peak demand in the State is about 1800MW to 1900 MW only. In order to avoid spillage of water, all the run-off the river plants with total capacity of about 700 to 800 MW has to be operated continuously during monsoon season. At the same time the allocation from CGS in the same period will be about 1031MW to 1184MW. Hence, power from traders and energy exchange may not be required to full extent as shown below:

Table 5.10
Day and Night Off-peak Demand and Power Availability

Period	Night off-peak demand	Day time demand	Import expected from CGS	Hydel (Must run)	Import required through traders/UI/exchanges	
	(MW)	(MW)	(MW)	(MW)	Night-off peak	Day time
July -2013 to November-2013	1800 to 1900	2400 to 2500	1100	700 to 800	up to 100 MW	Up to 600 MW

5.16 According to KSEB, if normal monsoon is received, power from traders and exchanges has to be limited to 100MW during night off-peak, where as for meeting the day time load, about 500 to 600MW is required, which has to be sourced from traders, exchanges and liquid fuel stations as required.

5.17 KSEB has entered into LOI for procuring 200 MW through PTC Ltd. round the clock (RTC) from June 2013 to May 2014 @ Rs.4.27 per unit under Medium Term Open Access (MTOA). Though contract for 100MW RTC power from M/s Shree Cements Limited from June 2013 to May 2014 @Rs.4.20 per unit was entered, the MTOA has not been received, and hence the same has to be availed through Short term Open Access. The Board has also stated that steps have been taken to procure about 600MW through traders from November 2013 to October 2014 by availing MTOA. Since available capacity under MTOA is already granted to various other utilities, there is limited chance for getting MTOA for the same and STOA is expected to be granted for availing at least part of the contracted power from November 2013 to October 2014. The total energy proposed to be procured from short term market is about 3628MU at an average cost of Rs.5 per unit totaling to Rs.1814.14 crore.

5.18 According to KSEB, the balance requirement of energy has to be met from liquid fuel stations. The day time demand is about 2600 to 2700 MW and the maximum import capability is 1800MW. Considering scheduling of hydel stations of about 700MW, the balance 200MW has to be met internally. In addition, to meet the peak demand of 3500MW, about 200 to 250MW has to be scheduled from internal sources in the ensuing year. In order to avail the compensatory allocation of cheap power from CGS priority is given for scheduling power from RGCCP. Further to meet the demand in northern part of the State, diesel stations are to be operated. The total generation from liquid fuel stations proposed for the year 2013-14 is as shown below:

Table 5.11
Generation and Power Purchase Proposed from Liquid Fuel Stations

SI No	Name of the Station	Energy schedule	Fixed Cost	Variable cost		Total
		(MU)	(Rs. Cr)	(Rs/kWh)	(Rs.Cr)	(Rs.Cr)
1	RGCCPP- Kylm	1220.45	233.00	11.36	1358.37	1591.37
2	KDPP	251.55		11.08	285.86	285.86
3	BDPP	106.76		11.34	124.17	124.17
4	BSES	0	88.02	11.35		88.02
5	KPCL	0	1.98	10.76		1.98
	Total	1578.77	323.00	55.89	1768.40	2091.40

5.19 Based on the above, total expenses towards generation and power purchase estimated by the Board for 2013-14 are shown below:

Table 5.12
Summary of Cost of Generation and Power Purchase Proposed by the Board for 2013-14

Source	Energy Produced /Purchased	Auxiliary Consumption	External Loss	Net Energy Input to KSEB T&D system	Fixed Cost	Incentive, Tax, etc.	Total Variable cost	Total Cost
	MU	MU	MU	MU	Rs. Cr	Rs. Cr	Rs. Cr	Rs. Cr
KSEB Internal								
Hydel	6468.16	32.34		6435.82				
Wind -Kanjikode	1.70	0.00		1.70				
BDPP	109.50	2.74		106.76			124.17	124.17
KDPP	258.00	6.45		251.55			285.86	285.86
Sub total	6837.36	41.53		6795.83			410.04	410.04
Power purchase								
(a) CGS								
TALCHER - Stage II	3113.74		127.66	2986.08	238.11	11.38	467.06	716.55
NLC- Exp- Stage-1	436.32		17.89	418.43	59.07	28.05	78.10	165.22
NLC-II- Stage-1	388.54		15.93	372.61	24.12	7.56	76.15	107.83
NLC-II- Stage-2	553.31		22.69	530.63	35.07	13.43	108.45	156.95
RSPTS Stage I & II	2359.28		96.73	2262.55	150.05	14.39	368.05	532.49
MAPS	128.55		5.27	123.28	26.19	0.49	0.00	26.68
KAIGA Stg I	242.74		9.95	232.79	72.95	1.49	0.00	74.44
KAIGA Stg II	225.05		9.23	215.82	67.64		0.00	67.64
Simhadri Exp	609.87		25.00	584.87	104.09		113.44	217.53
Farakka STP	113.48		4.65	108.83	9.65		27.58	37.22
Kahalgan	59.18		2.43	56.75	5.03		14.38	19.41
Talcher-I	65.58		2.69	62.89	5.57		15.93	21.51
Kudamkulam	1376.79		56.45	1320.34	447.46		0.00	447.46
NLC - II Exp	293.93		12.05	281.88	35.27		58.79	94.06
Vallur JV	187.58		7.69	179.89	28.14		37.52	65.65
Tuticorin JV	82.08		3.37	78.72	12.31		16.42	28.73
Sub total (CGS)	10236.03		419.68	9816.35	1320.72	76.79	1381.86	2779.37
Wind and Other IPPs								
Wind	73.54			73.54			23.09	23.09
Ullumkal	34.00			34.00			6.80	6.80
MP steel	40.80			40.80			9.42	9.42
Irukkikkanam SHP-stage-1	7.88			7.88			2.13	2.13
Irukkikkanam SHP-stage-2	3.60			3.60			1.07	1.07

PCBL	36.00			36.00			12.60	12.60
Sub total	195.82			195.82			55.11	55.11
Traders	3628.27			3628.27			1814.14	1814.14
IPPS								
RGCCPP	1220.45			1220.45	233.00		1358.37	1591.37
BSES	0.00			0.00	88.02		0.00	88.02
KPCL	0.00			0.00	1.98		0.00	1.98
Sub total	1220.45			1220.45	323.00		1358.37	1681.36
Total	15280.57		419.68	14860.89	1643.72	76.79	4976.31	6329.98
Transmission charges								
CGS				0.00	308.96	26.25	0.00	335.21
Kayamkulam				0.00	8.18		0.00	8.18
Sub total					317.14	26.25	0.00	343.39
Sub total power	15280.57		419.68	14860.89	1960.86	103.04	5019.51	6673.36
Total	22117.93	41.53	419.68	21656.72	1960.86	103.04	5429.54	7083.40

5.20 Thus in order to meet the projected energy requirement of 21657MU for the year 2013-14, the expected cost is about Rs.7083.40 crore. The average cost of generation and power purchase is thus worked out to be Rs.3.27 per unit.

Objections of Stakeholders

5.21 Many stakeholders have pointed out the lack of efforts on the part of the Board for developing internal generation. Shri. Alexander Vaidyan while referring to the power shortages stated that the inefficiency of the enterprise shall not be passed on to the consumers. The opportunity cost of power restrictions are never considered while imposing restrictions. Standing Council of Trade Unions stated that the Board is not doing anything to increase the production. From 2000 to 2013, consumers increased by 66% whereas the generation capacity has increased only by 10%. At the same time at the national level, the capacity has been doubled.

5.22 The HT-EHT Association in their comments stated that the proposed energy from hydel sources is comparatively lower than the actuals. As per the estimates based on the capacity weighted method, the Association estimated the hydro generation potential for 2013-14 at 7353MU. The net generation after considering the auxiliary consumption works out to 7316MU, and hence the generation requirement from non-hydel sources works out to be 13509MU. The Association stated that the estimates of the Board on power from CGS, wind and other small hydro sources are reasonable. The Association did not object to the stand taken by the Board that 1220MU should be scheduled from RGCCPP for availing the compensatory share. As per the version of the Association, though generation projected from KDPP is required to meet the load in northern part of the State, there is no requirement of generation from BDPP and hence generation of 110MU proposed from BDPP and the cost of Rs.124 may be disallowed.

- 5.23 The Association further pointed out that considering the availability of power through medium term open access, the actual requirement of power from traders will be 2024MU only and therefore there will be a reduction of Rs.861 crore, in cost. As per the estimates of the Association, the total cost of generation and power purchase including transmission charges will only be Rs.6156 crore for 2013-14.
- 5.24 The Cochin Chamber of Commerce stated that the Board has been exaggerating the expenses on power generation and availability over the years. The estimates of the Board on this account is not correct. Hence they requested that the Commission should study the internal generation and power purchase cost in detail before approving the expenses. It is not clear why the Board is not entering into long term power purchase agreement, though the cost of power through the long term agreement is lower. Binani Zinc Employees Union, Binani Zinc employees organization, Cominco Binani Zinc Employees Association and Kerala Newsprint Employees Union have also expressed similar opinions. They have pointed out that the method followed by the Board in estimation of hydro energy is not acceptable. While taking the 20 year average data, the generation from new projects is to be properly accounted. Hence, the average availability from hydro generation has to be taken at the least as 8000MU for 2013-14.
- 5.25 Shri. S.P.Ravi, Secretary Chalakudy Puzha Samrakshana Samithi stated that the Commission has already approved the revenue gap for 2012-13, and also allowed collecting additional charges on account of power restrictions. But now the Board has revised the cost estimates for 2012-13, which is not acceptable. The Commission shall not allow the demand for additional expenses other than that for generation /purchase of power. The shortage in hydel generation is projected as 1867MU and the additional expenditure of Rs.2360 crore is proposed for power purchase and generation. The additional liability is likely to be Rs.1300 to 1500 crore only. Shri. Ravi requested that the additional liability for excess consumption may not be considered at this stage.
- 5.26 The Samithi based on the 20 year discharge data from 1987 to 2006, has pointed out that actual energy out put from Poringalkuthu SHP will be less than 50% of the proposed quantity. Now the Board is promoting small hydel projects in a big way and the Commission may direct the Board to undertake participatory cost benefit analysis of each project before execution.

5.27 Kerala Newsprint Employees Union Limited pointed out that the methodology of assessment of hydro generation is wrong and hydro energy available for the year may be considered 8000 MU. The Officers Association of KSEB in their presentation has covered comprehensively on the lack of vision in addressing the power crisis. The dependence on short term market is increasing and about 16% of the demand is proposed to be met from short term market in 2013-14. The power purchase cost has been increasing in percentage terms along with revenue gap. They have stressed the need for long term business plan for addressing the increased power requirements as there is urgent need to address fall in generation. At present there is no major hydro project under execution, the coal block has been de-allocated and LNG option is unaffordable. The solar source is promising, but it is infirm and needs proper strategy to integrate with grid power. The above factors lead to dependence on short term power market, which in turn increases the cost to consumers.

5.28 Shri. A.R Satheesh, M/s Carborandum Universal limited stated that there is no adequate increase in installed capacity though consumers and consumption has increased by more than 60%. According to him at least 60% of the requirement is to be met from internal sources. Another concern is the cost escalation as the projected expenditure is about 42% higher than that approved for the previous year. According to him, it is mainly due to lack of planning.

5.29 Shri. N.S.Alexander, Thiruvananthapuram pointed out that the Board is keen to execute hydro projects, through Central Government is supporting non-conventional energy sources. He has given example of Mankulam and Pallivasal extension projects where there is considerable cost over run and time over run. In the case of Pallivasal Extension Project the work was started in March 2007 with estimate of Rs.222.50 crore and the project now requires additional expenditure of Rs.218 crore, for completion that too in 2015, i.e., 8 years after commencement. According to him the funds for the hydro projects are to be transferred for developing solar projects, as the energy production can be started much faster, that too by availing subsidies from Central Government

Analysis and Decision of the Commission

5.30 The cost of power purchase and generation proposed by the Board constitutes about 63% of the total ARR for 2013-14. The Commission has considered the projections of KSEB and the objections of the stakeholders in detail. The cost of generation and the cost of power purchase have been increasing over the years,

mainly on account large dependence on energy from liquid fuel stations and short term power purchase. The position as per the proposal of the Board for 2013-14 is as shown below.

Table 5.13
Energy Sources and Share of Cost

Sources	Energy		Cost	
	MU	%	Rs.Cr	%
Hydel Generation	6,436	29.7%	-	0.0%
CGS	9,816	45.3%	2,779.37	41.2%
LFS	1,579	7.3%	2,091.40	31.0%
Short term/traders	3,628	16.8%	1,814.14	26.9%
Others	196	0.9%	55.11	0.8%
Total	21,655	100.0%	6,740.02	100.0%

5.31 It has to be specifically noted that, out of the total requirement of energy, about 24% is from liquid fuel stations and traders/exchanges, for which the cost is about 58% and the average cost works out to Rs.7.50 per unit, which is pushing up the cost of power in the State considerably.

Internal Hydro generation

5.32 The Board has estimated the hydro generation at 6468MU, considering average daily generation of about 11.83MU in April and 11.73MU in May 2013. The Commission projects the hydro availability, based on the actual opening balance of water in the reservoirs as on 1-4-2013 and the data furnished by the Board in the petition, as given below:

Table 5.14
Hydro Generation Approved for 2013-14

Particulars	Energy equivalent in MU
Storage as on 1-4-2013	1057
Inflow anticipated for April & May, 2013	286
Total hydel energy available till May 31, 2013	1343
Less Reserve	550
Balance available for April & May 2013	793
Anticipated Generation from June 2013 to March 2014 based on 20 year average inflow @18.4MU as projected by KSEB	5594
Anticipated Generation from Small hydel sources	173
Total Hydel Generation for 2013-14	6560

5.33 Thus, as per the estimate of the Commission based the actual opening balance of 1-4-2012, the hydro availability for the year 2013-14 will be around 6560MU. After considering the auxiliary consumption of 0.5%, the net availability will be 6527MU, as against the 6436 MU projected by the Board.

Cost of Generation from Internal Liquid Fuel Stations

5.34 The Board has projected the average variable cost of generation from BDPP and KDPP as Rs.10.39 per unit and Rs.10.84 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 Board from April 2012 to December 2012 are taken for arriving at the benchmark parameters. The benchmark parameters reported by the Board for the said period are given below:

Table 5.15
Actual Benchmark Parameters for BDPP and KDPP

Month & year	BDPP			KDPP		
	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-12	1989	10070	54434	2154	10330	54108
May-12	1544	10070	54500	2145	10330	53840
Jun-12	1838	10070	54500	2122	10246	51550
Jul-12	2057	10070	54500	2119	10234	47715
Aug-12	1988	10070	52162	2118	10212	49419
Sep-12	1941	10070	54033	2150	10242	52981
Oct-12	1995	10070	52217	2117	10242	50989
Nov-12	1728	10070	50329	2099	10240	49123
Dec-12	1653	10070	49447	2087	10242	48597
Average	1859	10070	52902	2124	10258	50925

5.35 Accordingly, the average heat rates for BDPP and KDPP for the year 2013-14 are approved as 1859 kCal/kWh and 2124kCal/kWh respectively. The Commission has also considered the actual fuel prices in the previous year. Accordingly, average LSHS prices for the year 2012-13 (upto December) are about Rs.52900 per MT for BDPP and Rs.50900 per MT for KDPP. Therefore the Commission approves LSHS price of Rs.53000/MT for BDPP and Rs.51000 for MT for KDPP as LSHS prices for 2013-14.

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)	1859	2124
Average Calorific Value of Fuel (kCal/kg)	10070	10258
Fuel Consumption Factor	0.1846	0.2070
Price of Fuel (Rs./MT)	53000	51000
Cost per unit	9.79	10.56
Cost of lubricant oil etc.	0.15	0.05
Total Cost per unit (Rs./kWh)	9.94	10.61

5.36 The Board has projected variable cost of Rs.11.36 per unit for RGCCPP and Rs.10.76 per unit for KPCL. The Board has not proposed any generation from BSES. The Commission approves the rates proposed by the Board in respect of RGCCPP and KPCL. Per unit costs for liquid fuel stations for 2013-14 are as follows

Table 5.17
Approved Cost of Liquid Fuel Stations

	Proposed by the Board (Rs./kWh)	Approved by the Commission (Rs./kWh)
BDPP	11.34	9.94
KDPP	11.08	10.61
KPCL	10.76	10.76
RGCCPP	11.36	11.36

Availability of Power from CGS

5.37 The Board has estimated gross generation from CGS stations as 10263MU. After accounting for losses the net availability of energy at the Kerala periphery is taken as 9816MU. The Commission is not inclined to change the estimates of generation from CGS proposed by the Board. However, as per letter dated 22-2-2013, KSEB has informed that there is delay in commissioning Koodamkulam station and NLC Expansion Stage II. Accordingly it is expected that 1st unit of Koodamkulam is likely to start commercial operation only by July 2013. Considering this, the Commission estimates the energy availability from Koodamkulam as 660 MU as against 1320MU proposed by the Board. Hence, the total net availability of energy from CGS estimated by the Commission is 9156MU as against 9816 MU proposed by the Board. The Board has taken the average variable cost during the period from April

to September 2012 for estimating the variable charges for central stations. The Commission approves the estimates of the average variable cost of CGS as projected by the Board.

Table 5.18
Approved Variable Charges for Central Generating Stations for 2013-14

	Projected by the Board (Rs./kWh)	Approved by the Commission (Rs./kWh)
TALCHER - Stage II	1.50	1.50
NLC- Exp- Stage-1	1.79	1.79
NLC-II- Stage-1	1.96	1.96
NLC-II- Stage-2	1.96	1.96
RSPTS Stage I & II	1.56	1.56
MAPS	2.04	2.04
KAIGA Stg I	3.01	3.01
KAIGA Stg II	3.01	3.01
Simhadri Exp	1.86	1.86
Farakka STP	2.43	2.43
Kahalgon	2.43	2.43
Talcher-I	2.43	2.43
Kudamkulam	3.25	3.25
NLC - II Exp	2.00	2.00
Vallur JV	2.00	2.00
Tuticorin JV	2.00	2.00

Other Charges for Central Generating Stations:

5.38 The other charges include the incentives, tax, etc., periodically charged by CGS. As per the details provided by the Board, there is wide variation in the projections and actual figures of other charges for the CGS. The Board has proposed the other charges as given below:

Table 5.19
Other Charges Payable to CGS

Source	2009-10 (actual)	2010-11 (actual)	2011-12 (actual)	2012-13 (Est)	2013-14 (est)
	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
Generators					
Thalcher – II	118.37	12.36	10.79	11.00	11.38
NLC-II - Stage-1	0.84	8.25	8.55	5.88	7.56
NTPC- RSTPS	25.06	7.73	18.38	17.06	14.39
NLC-II - Stage-2		12.03	14.82	13.43	13.43

MAPS	0.3	0.07	0.95	0.44	0.49
NLC (Exp)	0.06	54.90	29.19	28.05	28.05
Kayamkulam		32.90			
Kaiga	0.89	0.33	2.80	1.34	1.49
PGCIL					
Southern Region	2.25	38.25	20.25	20.25	26.25
Total	147.77	166.82	105.73	97.44	103.03

5.39 The total other charges for 2011-12 was Rs.105.73 crore and the proposed charges for 2013-14 is Rs.103.03 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 2011-12. The details are as shown below:

Table 5.20
Other Charges Paid to CGS for the year 2011-12

Sl No.	Name of the CPSU	Fuel adjustment charges/ tariff revision/ SFC revision	Incentive	Water cess	Electricity duty	Heavy water lease adjustment	Total
		(Rs.cr)	(Rs.cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
1	Talcher-II	2.07	4.93	0.14	3.65		10.79
2	NLC exp	29.19					29.19
3	NLC-II stage-1	8.55					8.55
4	NLC-II stage-2	14.82					14.82
5	Ramagundam	17.05	0.79	0.28	0.26		18.38
6	MAPS					0.95	0.95
7	KAIGA	0.51				2.29	2.80
8	PGCIL	14.25	6.00				20.25
	Total	86.44	11.72	0.423	3.91	3.24	105.73

5.40 As can be seen that out of the Rs.105.73 crore, about Rs.86.44 crore is claimed as fuel adjustment charges/tariff revision/SFC revision. The changes in fuel cost adjustment is recovered on monthly basis and it is adjusted in the fuel cost adjustment. Other claims such as adjustment in tariff revision etc. are mainly the adjustments for the first two years when the provisional billing is resorted to. Since the CERC has fixed final tariff, the adjustment charges for ensuing years will be limited. Hence, as per the details given by the Board, the provision for other charges for the year 2013-14 will not be more than Rs.30 crore including charges for PGCIL. Accordingly, total 'other charges' allowed for the year 2013-14 will be Rs.30 crore.

Energy Availability from Wind and Small IPPs:

5.41 As per the projections of the Board, energy availability from WEGs and small IPPs is about 196MU. 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) and Ullunkal SHP prevailing provisional rates are applicable. The charges payable to wind and other small IPPs are allowed as shown below:.

Table 5.21
Proposed Generation & Cost for Power Procurement from Wind and Other Small IPPs

Source	Capacity (MW)	Generati on target (MU)	Proposed by the Board		Approved by the Commission	
			Per unit cost (Rs/ kWh)	Total cost (Rs.Cr)	Cost per unit (Rs./kWh)	Total Cost (Rs.crore)
Wind IPPs	33.68	73.54	3.14	23.09	3.14	23.09
Ullumkal SHP	7.00	34.00	2.00	6.80	2.00	6.80
MP steel- Co generation plant	8.00	40.80	2.31	9.42	2.31	9.42
Iruttikkianam SHP- Stage-1	3.00	7.88	2.70	2.13	2.13	2.13
Iruttikkianam SHP- Stage-2	1.50	3.60	2.96	1.07	2.96	1.07
PCBL	6.00	36.00	3.50	12.60	2.02	7.27
Total	59.18	195.82		55.11		49.78

Energy from Liquid Fuel Stations and Traders

5.42. The total energy available from the above sources (excluding Liquid Fuel Stations & traders) is estimated at 15881MU. The balance energy required is given below:

Table 5.22
Energy Requirement from Liquid Fuel Stations and Traders/Exchanges

	Proposed by the Board (MU)	Approved By the Commission (MU)
Total Energy requirement	21,657	21390
Internal Generation (Hydro&Wind)	6,438	6,529
Central Generating Stations	9,816	9,156
Small IPPs	196	196
Total (Internal, CGS & Small IPPs)	16,449	15,881
Balance Energy requirement	5,208	5,509

5.43 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.

- 5.44 As per the details furnished by the Board, the per unit cost of compensatory allocation for RGCCPP works out to be Rs.2.53/unit (fixed + variable) as shown below:

Table 5.23
Cost of RGCCPP Compensatory Share

Station	MU/day	Rate	MU/year	Cost (Rs.cr)	Per unit rate
Talcher	3.55	2.36	1,295.8	305.80	2.36
Farakka	0.31	3.42	113.2	38.70	3.42
Kahalgone	0.16	3.42	58.4	19.97	3.42
Talcher –I	0.19	3.42	69.4	23.72	3.42
Total Compensatory share			1,536.7	388.18	2.53

- 5.45 Based on the above, the pooled cost of RGCCP and Compensatory share works out to Rs.7.18 per unit considering the energy proposed by the Board in the ARR, as shown below:

Table 5.24
Pooled Cost of RGCCPP and Compensatory Share

Station	MU/year	Cost (Rs.cr)	Per it rate
Total Compensatory share	1,537	388.18	2.53
Energy proposed from RGCCPP	1,220	1,591.37	13.04
Average Pooled Cost	2,757	1,979.55	7.18

- 5.46 The pooled rate worked out is higher than the average 'day ahead' rates of power exchanges for the year 2012-13. The monthly average rate in power exchange for the year 2012-13 works out to be Rs.7.11 per unit only. Hence, price higher than the rate prevailing in 'day ahead' market is not desirable for combined cost of RGCCPP and compensatory share. The Commission in 2012-13 had allowed off take of 622 MU from RGCCPP for minimum operation of the plant. If such operation is considered the pooled cost will be at the comparable levels as shown below.

Table 5.25
Estimated Pooled Cost of RGCCPP

Station	MU/year	Cost (Rs.cr)	Per unit rate
Total Compensatory share	1,537	388.18	2.53
RGCCPP	622	939.59	15.10
Average Pooled Cost	2,159	1,327.77	6.14

5.47 Hence the Commission is constrained to limit the drawl from RGCCPP to 622 MU for 2013-14. However, considering the peculiar situation of failure of monsoon and consequent reduction in availability of energy in 2012-13 water year, additional requirement of generation from internal liquid fuel stations may be necessary. Accordingly, the Commission allows additional provision of 209.MU for the months of April & May 2013 from RGCCPP and the total energy approved from this source is 831MU. On Generation from BDPP and KDPP, the level of generation approved in 2012-13 is allowed for 2013-14 also. Accordingly, the Commission estimates the off take from internal liquid fuel stations and IPPs as shown below:

Table 5.26
Energy Generation/Purchase from Liquid Fuel Stations

Source	Gross Energy (MU)	Net Energy (MU)	Fixed costs (Rs.crore)	Variable charges (Rs./kWh)	Variable Charges (Rs. crore)	Total Costs (Rs. crore)
BDPP	88	85		9.94	87.47	87.47
KDPP	117	111		10.61	124.14	124.14
RGCCPP	831	831	233.00	11.36	944.02	1,177.02
BSES	0	0	85.02			85.02
KPCL	0	0	1.98	10.76	-	1.98
Total	1036	1027	320.00	42.67	1,155.63	1,475.63

5.48 The balance energy requirement of 4482 MU needs to be procured through medium/short term purchase. The Board has already entered into arrangements for short term and medium term purchase as shown below:

Table 5.27
Medium Term and Short term Agreements Entered into by the Board

Source/ Trader		Energy
M/s PTC (MTOA)	100 MW, RTC	620
M/s PTC (MTOA)	100 MW, RTC	620
M/s Shree Cements (Short-term OA)	100 MW, RTC	149
M/s JINDAL Power (Short-term OA)	150 MW, RTC	69
M/s Sterilite Power Ltd	200 MW, RTC	92
M/s PTC Ltd	250 MW, RTC	116
		1667

5.49 The balance requirement of energy of 2815 MU has to be procured on a short term basis from traders or exchange or UI. The costs of energy from medium term/short term sources and from energy exchange are different. The rates at the energy exchanges may vary considerably according to season and time of use. The Board may have to resort to purchase of small quantities of power at higher rates and can compensate it by availing cheaper power from exchanges or from UI. Therefore the Commission does not propose to impose a maximum limit beyond which KSEB cannot purchase power from exchanges. But the Board should ensure that the combined monthly average cost of power from exchanges, traders and from UI shall not exceed Rs.5.00 per unit. The Board shall submit a monthly statement to the Commission on the power purchased from traders, exchanges and UI for periodic review. Considering all the factors, the Commission allows purchase from traders/exchanges at an average rate of Rs.5 per unit. Hence the total expenses from purchase of energy from traders/exchanges works out to Rs.2241 crore.

Transmission Charges Payable:

5.50 The Board has proposed transmission charges for CGS as Rs.308.96 crore and for RGCCPP as Rs.8.18 crore. The Commission approves the estimates of the Board in this regard.

5.51 The Summary of approved generation and power purchase including the cost is as shown below:

Table 5.28
Summary of Approved Power Purchase and Generation for 2013-14

Source	Energy Produced /Purchased	Auxiliary Consumption	External Loss	Aux consumption / External Loss	Net Energy Input to KSEB T&D system	Fixed Cost	Incentive, Tax, etc.	Variable cost /Unit	Total Variable cost	Total Cost
	MU	MU	MU	%	MU	Rs. Cr	Rs. Cr	Rs/kWh	Rs. Cr	Rs. Cr
KSEB Internal										
Hydel	6560	33		0.50%	6527					
Wind -Kanjikode	1.7	0		0.00%	1.7					
BDPP	87	2		2.50%	85			9.94	86.48	86.48
KDPP	114	3		2.50%	111			10.64	121.30	121.30
Sub total	6763	38			6725				207.77	207.77
Power purchase										
(a) CGS										
TALCHER - Stage II	3114		128	4.10%	2986	238.11		1.50	467.06	705.17
NLC- Exp- Stage-1	436		18	4.10%	418	59.07		1.79	78.10	137.17
NLC-II- Stage-1	389		16	4.10%	373	24.12		1.96	76.15	100.27
NLC-II- Stage-2	553		23	4.10%	531	35.07		1.96	108.45	143.52
RSPTS Stage I & II	2359		97	4.10%	2263	150.05		1.56	368.05	518.10
MAPS	129		5	4.10%	123			2.04	26.19	26.19
KAIGA Stg I	243		10	4.10%	233			3.01	72.95	72.95
KAIGA Stg II	225		9	4.10%	216			3.01	67.64	67.64
Simhadri Exp	610		25	4.10%	585	104.09		1.86	113.44	217.53
Farakka STP	113		5	4.10%	109	9.65		2.43	27.58	37.23
Kahalgon	59		2	4.11%	57	5.03		2.43	14.38	19.41
Talcher-I	66		3	4.10%	63	5.57		2.43	15.93	21.50
Kudamkulam	688		28	4.10%	660			3.25	223.67	223.67
NLC - II Exp	294		12	4.10%	282	35.27		2.00	58.79	94.06
Vallur JV	188		8	4.10%	180	28.14		2.00	37.52	65.66
Tuticorin JV	82		3	4.11%	79	12.31		2.00	16.42	28.73
Sub total (CGS)	9547		391	4.10%	9156	706.48	24.00	1.86	1,772.32	2,502.80
Wind and Other IPPs										
Wind	74				74			3.14	23.09	23.09
Ullumkal	34				34			2.00	6.80	6.80
MP steel	41				41			2.31	9.42	9.42
Irukkikkanam SHP-stage-1	8				8			2.70	2.13	2.13
Irukkikkanam SHP-stage-2	4				4			2.97	1.07	1.07
PCBL	36				36			2.02	7.27	7.27
Sub total	196				196				49.78	49.78
IPPS										
RGCCPP	831				831	233.00		11.36	944.02	1,177.02

Source	Energy Produced /Purchased	Auxiliary Consumption	External Loss	Aux consumption / External Loss	Net Energy Input to KSEB T&D system	Fixed Cost	Incentive, Tax, etc.	Variable cost /Unit	Total Variable cost	Total Cost
	MU	MU	MU	%	MU	Rs. Cr	Rs. Cr	Rs/kWh	Rs. Cr	Rs. Cr
BSES	0				0	85.02			-	85.02
KPCL	0				0	1.98			-	1.98
Sub total	831				831	320.00	-		944.02	1,264.02
Total Traders/ Exchanges	4482				4482			5.00	2,241.00	2,241.00
Sub total power purchase	15056	0	391		14665	1,026.48	24.00		5,007.12	6,057.60
Total	21819	38	391		21390	1,026.48	24.00		5,214.89	6,265.37
Transmission charges-PGCL										
CGS						308.96	6.00		-	314.96
Kayamkulam						8.18			-	8.18
Sub total						317.14	6.00		-	323.14
Total	21819	38	391		21390	1,343.62	30.00		5,214.89	6,588.51

Thus Commission allows Rs.6588.51 cores forwards generation and power purchase for the year 2013-14

Monthly Generation Schedule

5.52. Based on the data furnished by the Board, 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:

5.53 In the petition, the Board has stated that while estimating the additional borrowing, all internal accruals including depreciation and other non-cash items are duly considered and additional fund requirements over and above the internal resources are met through borrowing from financial institutions. The excess resources have been judiciously earmarked for repayment of existing capital liabilities. The closing balance of loans from financial institutions and existing bonds as on 31-3-2012 was Rs.1356.34 crore as shown below:

Table 5.29
Closing Balance of Borrowings as on 31-3-2012

Sl.No	Item	Opening Balance	Borrowing	Repayment	Closing Balance
		Accounts	Accounts	Accounts	Accounts
		(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
I	Existing Bonds	10.45	-	10.45	-
II	Long term loans	556.05	80.26	79.97	556.34
III	Short term loans	500.00	1,300.00	1,000.00	800.00
IV	Loans from Financial Institutions(II+III)	1,056.05	1,380.26	1,079.97	1,356.34
V	Total (I+IV)	1,066.50	1,380.26	1,090.42	1,356.34

- 5.54 The Board has stated that the capital investment for the year 2011-12 was Rs.1019.13 crore, which is about 98.37% of the amount proposed in the ARR. The net additional capital borrowing was only Rs.289.84 crore and the same was achieved mainly through utilisation of Rs.326.36 crore of Section 4 duty and by availing overdraft from financial institutions, thereby increasing the interest on working capital from Rs.35 crore to Rs.82.25 crore.
- 5.55 According to the Board, though the Commission has approved the revenue gap of Rs. 1889.15 crore for 2012-13 and allowed tariff increase from 1-7-2012, the additional revenue for the remaining nine months will be only Rs.1257.63 crore, leaving an unbridged revenue gap of Rs.631.53 crore. Due to failure of monsoon, there was a shortfall of about 2000MU which necessitated additional cost of Rs.1400 crore towards power purchase . The monthly revenue short fall is about Rs.200 crore and the same is met through overdrafts and short term loans. The overdraft balance as on 30-11-2012 was Rs.1505.57 crore, which is Rs.400 crore more than that on 31-3-2012.
- 5.56 As per the estimates of the Board, the capital expenditure for the year 2012-13 will be Rs. 1118.75 crore against the approved amount of Rs.980 crore. In order to meet the capital expenditure, KSEB plans to avail project specific loans, and proposed Rs.500 crore additional borrowing from October 2012 to March 2013. The summary of revised estimate of interest on loans for 2012-13 is shown below:

Table 5.30**Revised Estimate of Borrowing & Interest Charges for 2012-13 Provided by KSEB**

Sl. No.	Particulars	Rate of Interest in %	Balance at the beginning of the year	Amount Received during the year	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 – secured						
	REC	7.00 - 11.75	105.95	0.00	29.83	76.12	9.39
	LIC	9.00	14.00	0.00	2.00	12.00	1.09
	Subtotal		119.95	0.00	31.83	88.12	10.48
II	Loans – unsecured						
	LIC	9.00	22.38	0.00	9.19	13.19	1.74
	REC	7.00 - 11.75	193.94	2.68	30.28	166.34	17.20
	PFC-R-APDRP-Part A	11.50	89.26	0.00	2.76	86.50	20.45
	Short Term Loans	11.50	800.00	426.00	0.00	1226.00	88.80
	PFC-R-APDRP-Part B	11.50	130.82	0.00	1.00	129.82	19.96
	Subtotal		1236.40	428.68	43.23	1621.85	148.15
	Additional borrowing 12-13 (October to March)	12.50	0.00	500.00	0.00	500.00	31.25
	Total		1356.35	928.68	75.06	2209.97	189.88

5.57 The outstanding capital liability is likely to be increased from Rs.1356.35 crore to Rs.2209.97 crore at the end of 2012-13. The borrowing will be Rs.928.68 crore and redemption will be Rs.75.06 crore. In addition, it is also planned to retain electricity duty worth Rs.400 crore, and to defer payables.

5.58 The capital expenditure proposed for the year 2013-14 is Rs.1521.45 crore. As per the G.O dated 3-11-2011, modality of funding pension liabilities has been finalized. As per the said order, a total amount of Rs.3024 crore will be released to KSEB for funding terminal liability, by adjustment of Rs.1600 crore as dues from netting off outstanding liabilities and balance by adjusting Rs.250 crore per annum from the electricity duty for next 10 years. Since the modalities have not been finalized, the Board is retaining electricity duty. The Board further stated that out of the capital expenditure of Rs.1521.45 crore, an amount of Rs.750 crore will be met from financial institutions and balance will be made available from RGVVY, R-APDRP funds and the contribution from consumers. The summary of estimated interest charges proposed by the Board for 2013-14 is shown below:

Table 5.31**Interest Charges on Loans and Bonds for the year 2013-14 Proposed by the Board (Rs.cr)**

Sl. No.	Particulars	Rate of Interest in %	Balance at the beginning of the year	Amount Received during the year	Amount Redeemed during the year	Balance out standing at the end of the year	Interest for the year
II	Loans – secured						
	REC	8.00 - 12.75	76.12	0.00	25.00	51.12	7.08
	LIC	9	12.00	0.00	2.00	10.00	0.89
	Subtotal		88.12	0.00	27.00	61.12	7.97
III	Loans - unsecured						
	LIC	9	13.19	0.00	7.53	5.66	0.98
	REC	7.00 -11.75	166.34	0.00	28.98	137.36	15.52
	PFC-R-APDRP-Part A	11.5	86.50	0.00	9.19	77.31	5.26
	PFC-R-APDRP-Part B	11.5	129.82	0.00	0.00	129.82	14.93
	Short term loans	12.5	1226.00	0.00	0.00	1226.00	153.25
	Subtotal		1621.85	0.00	45.70	1576.15	189.94
	Additional borrowing 12-13	12.5	500.00	750.00	0.00	1250.00	109.38
	Total		2209.97	750.00	72.70	2887.27	307.28

5.59 The interest charges proposed by the Board for 2013-14 exceeds by Rs.117.4 crore (62%) over the revised estimates for 2012-13. As per the estimates of the Board, the revised interest on working capital for 2012-13 will be about Rs.150 crore and that for 2013-14 will be Rs.100 crore, as the overdraft for 2012-13 will be continued for 2013-14 also.

5.60 The interest payable on the security deposit is estimated at Rs.85.48 crore for 2013-14 and the rebate payable to the consumers is estimated at Rs.1 crore for 2013-14. The interest on Provident Fund balance is estimated at Rs.85 crore considering the balance of Rs.937.90 crore as on 31-3-2012. Rs.1 crore is earmarked as cost of raising finance. The guarantee commission payable to the Government is estimated at Rs.0.66 crore. Other charges and bank charges are estimated at Rs.8 crore for the ensuing year. The summary of total interest and financing charges proposed by the Board for 2013-14 is given below:

Table 5.32**Summary of Interest and Finance Charges proposed by the Board for 2013-14 (Rs.crore)**

Particulars	2011-12	2012-13		2013-14
	Accounts	SERC approval	Revised	Estimate
I - Interest on outstanding Loans & Bonds	128.63	178.14	189.88	307.28
II - Interest on Security Deposit	68.01	74.55	74.55	85.48
III - Other Interest and Finance Charges				
Interest on borrowings for working capital	82.25	20.00	150.00	100.00
Rebate to consumers for timely payment	0.97	2.50	0.80	1.00
Interest on PF	54.80	83.00	82.00	85.00
Cost of raising finance:	0.00	1.00	1.00	1.00
Guarantee Commission		1.00	0.90	0.66
Bank Charges	5.86	10.00	7.00	8.00
Total of (III)	143.88	117.50	241.70	195.66
Grand Total (I+II+III)	340.52	370.19	506.13	588.42

Objections of the Stakeholders

- 5.61 The Standing council of Trade Unions stated that Interest and financing charges need scrutiny as the financing cost of the loan is taken for meeting revenue gap is included in the interest charges. Employee unions in M/s Blnani Zinc limited and Cochin Chamber of Commerce stated that the income of the Board has increased by about 30 to 35%, even then there is no decline in borrowing. In 2011/12 the Board has requested for borrowing of Rs.940 crore, whereas the actual was only Rs.290 crore. It shows that the actuals are lower than the estimated figures. Hence the interest cost should be curtailed. M/s TCC Limited stated that the Board has been inflating the interest and financing charges every year. The proceeds of fixed deposits on maturity should be considered while assessing the fund requirements. There is no need for further funding in the pretext of working capital.
- 5.62 The HT-EHT Association objected to the estimates of the Board on interest and financing charges. They have argued that the fixed deposit meant for creating pension funds is required as the Government has already agreed to provide Rs.3024 crore for funding the pension liabilities. Hence the proceeds of FD which would mature in 2013-14 is available to the Board to the tune of Rs.126 crore.
- 5.63 The Association pointed out based on the actual in 2011-12, that the Board has been projecting higher borrowing and thereby claiming higher interest and

financing charges in the ARR. The same trend is continuing in 2012-13. However, the fund requirement in 2012-13 may be higher due to adverse variation in hydro thermal mix variation, which cannot be a reason for over projecting an increased borrowing in 2013-14. According to them, based on the details in the petition, amount of Rs.688 crore is available to the Board from maturing of FD. The net borrowing in 2012-13 for funding the capital expenditure of Rs.1119 crore as per the estimates of the Association is only Rs.16 crore, considering the FD amount of Rs. 688 core, and the depreciation of Rs. 413 crore in 2012-13. In the same manner, the Association argued that net borrowing after considering the funds available from contribution, R-APDRP, RGGVY, depreciation etc., will be Rs.-203 crore, and hence the interest requirement will only be Rs.155 core. Thus, according to the said Association, Rs. 152 crore has to be disallowed from the estimated interest and financing charges.

- 5.64 Regarding interest on working capital, the Association stated that working capital interest is not allowable if justifiable costs are admitted and passed on through the tariff. With the support of figures from Data Form C, the Association contended that there is no need for working capital as the non-cash assets less the current liabilities is negative. The Board is in excess of current liabilities over non-cash assets, which shows that excess cash held by the Board (due but not paid out), is more than sufficient to cover the current assets. Thus the Association argued that there is no requirement of interest on working capital. The total interest charges estimated by the Association for the year 2013-14 is Rs.336 crore against Rs.588 crore estimated by the Board.

Analysis and Decision of the Commission

- 5.65 As per the petition, the estimated opening balance of outstanding liabilities as on 1-4-2013 is Rs.2209.97 crore, of this Rs.483.97 crore is secured loans and the balance is short term loans. In 2012-13, the Board is proposing to avail Rs.926 crore as additional short term loans. Though the Board is claiming that the project specific loans will be availed for meeting capital expenditure, major chunk of additional borrowing is still short term loans. However, as in the case of previous years, the loan availed is not seen fully utilized for capital expenses. For example, out of the total capital expenditure proposed for generation in 2012-13, the progress is 24% as on 31-12-2012. Considering the progress of capital expenditure for the year 2012-13, it can be seen that the short term loans are availed more for meeting the working capital needs than for capital expenditure. The Commission has sought the details of actual receipt of short term and long

term loans. As per the details given by the Board vide letter dated 22-2-2013, balance of short term and long term loans are as shown below:

Table 5.33
Long Term and Short Term Loans as on 31-1-2013

Source	Balance as on 31-3-2012	Additional borrowing	Repayments	Balance as on 31-1-2013
REC-RGGVY	4.74	5.58		10.32
PFC-R-APDRP	220.08	30.92		251.00
LIC	36.38		11.19	25.19
REC	295.15		31.28	263.87
Total	556.35	36.50	42.47	550.38
Short term loans	800.00	1626.00	800.00	1,626.00
Total	1,356.35	1,662.50	842.47	2,176.38

- 5.66 The short term loans as on 28-2-2013 is Rs.1486 crore. Though strictly, the short term loans shall be part of the working capital expenses, the Commission considers the details of short term loans also, since a part of the short term loans is used for capital expenditure. The Commission also notes that the Board has not proposed any repayment of short term loans in the year 2013-14, which is not reasonable.
- 5.67 The Board has proposed capital expenditure of Rs.1521 crore and borrowing of Rs.750 crore for 2013-14. The Commission after considering the progress of capital expenditure, has provisionally allowed the capital expenditure for Rs.1000 crore for 2013-14, since, the maximum limit of capital expenditure incurred by the Board in the recent past was Rs.1019 crore in 2011-12.
- 5.68 As per the details given by the Board, the estimated addition to PF account balance will be Rs.35 crore, addition to security deposit and contribution from consumers will be Rs.210 crore and Rs.275 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 from 1-7-2012. Hence, already more than Rs.520 crore will be available for meeting the capital expenditure for which interest charges are provided. Hence, balance Rs.500 crore is allowed as borrowing for capital expenditure for the year 2013-14. Accordingly, the interest charges for the year 2013-14 is allowed as shown below:

Table 5.34**Interest Charges on Loans Approved by the Commission for 2013-14 (Rs. crore)**

Particulars	Rate of Interest in %	Balance at the beginning of the year	Amount Received during the year	Amount Redeemed during the year	Balance outstanding at the end of the year	Interest for the year
Secured & unsecured loans	11 to 12%	550.38		72.70	477.68	59.11
Short Term borrowings	12%	1,626.00	500.00		2,126.00	225.12
Total interest charges		1,476.26	500.00	72.70	1,905.14	284.23

5.69 The Commission notes that the Board has not proposed any repayments of short term loans, though depreciation 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. The interest charges should be proportionately reduced if the information on redemption is available. In the absence of details, the Commission is not modifying the estimates of the Board. However, in the truing up process, interest charges will be allowed only after prudence check.

5.70 The Board has proposed interest on working capital of Rs.100 crore. The Board has already filed petition for revision of tariff. Further, accumulated security deposits and electricity duty retained by the Board are also available. Hence, the Commission is not allowing any interest on working capital for the year 2013-14.

5.71 The Board has projected other items such as interest on security deposit (Rs.85.48 crore), rebate for prompt payment (Rs.1.00 crore), interest on provident fund balance (Rs.85 crore) and bank charges (Rs.8 crore). The Commission approves the estimates of the Board in this regard. Thus, the total interest and financing charges approved for 2013-14 is Rs. 465.37 crore as shown below:

Table 5.35**Approved Interest and Financing Charges for 2013-14**

Particulars	2013-14	
	Proposed by the Board (Rs.cr)	Approved by the Commission (Rs.cr)
I - Interest on outstanding Loans & Bonds	307.28	284.23
II - Interest on Security Deposit	85.48	85.48
III - Other Interest and Finance Charges		
Interest on borrowings for working capital	100.00	0.00

Rebate to consumers for timely payment	1.00	1.00
Interest on PF	85.00	85.00
Cost of raising finance:	1.00	1.00
Guarantee Commission	0.66	0.66
Bank Charges	8.00	8.00
Total of (III)	195.66	95.66
Grand Total (I+II+III)	588.42	465.37

Depreciation

5.72 In the petition, the Board has stated that for regulatory accounts, depreciation as per CERC norms has been claimed by the Board in the ARR&ERC as well as truing up petition. The Board has claimed the depreciation of Rs.529.13 crore as per the revised CERC norms for 2013-14. In order to substantiate the estimation of depreciation as per revised CERC norms, the Board has given the details of addition to assets for the last 12 years for each class of assets as shown below:

Table 5.36

Asset Wise Details of the GFA Created during the Last 12 years given by the Board

GFA	Asset class									Total
	Land	Building	Hydraulic works	Other civil works	Plant & Machinery	Lines, Cable networks etc	Vehicles	Furniture & Fixtures	Office Equipments	
GFA as on 01.04.2000	128.31	215.64	559.49	55.77	1155.38	1208.79	11.19	7.28	5.31	3347.16
2000-01	16.01	55.02	38.84	13.40	160.29	208.11	0.01	1.10	1.36	494.14
2001-02	6.48	19.24	18.90	11.71	700.76	189.17	0.01	0.37	0.51	947.15
2002-03	19.50	46.44	50.08	41.48	174.94	467.62	0.05	0.96	0.30	801.37
2003-04	12.54	36.23	36.38	25.76	519.16	331.25	0.01	0.92	6.49	968.74
2004-05	10.30	33.35	14.10	31.00	137.37	272.13	0.27	1.18	1.71	501.41
2005-06	55.96	34.05	119.52	48.55	136.57	254.65	0.29	0.35	1.71	651.65
2006-07	4.66	26.64	19.15	24.58	154.01	262.18	0.07	0.51	13.43	505.23
2007-08	2.92	20.47	30.48	20.71	118.06	272.96	0.01	0.49	1.6	467.70
2008-09	24.12	10.21	12.09	28.99	197.81	286.67	1.14	0.75	2.78	564.56
2009-10	25.47	39.20	75.35	23.43	313.51	451.91	0.52	1.13	5.40	935.92
2010-11	19.35	19.24	98.87	66.05	290.84	515.15	0.98	1.01	7.24	1018.73
2011-12	6.36	52.9	28.87	30.88	279.85	464.7	1.5	1.06	3.74	869.86
Total addition during last 12 years	203.67	392.99	542.63	366.54	3183.17	3976.50	4.86	9.83	46.27	8726.46
GFA as on 01.04.2012	331.98	608.63	1102.12	422.31	4338.55	5185.29	16.05	17.11	51.58	12073.62

5.73 According to the Board, the GFA added in the last 12 years is worth Rs.8726.46 crore. and for the balance assets worth Rs.3347.16 crore, depreciation is claimed considering the residual value of assets duly considering the useful life. Hence,

the depreciation estimated by the Board for 2012-13 considering the vintage of assets is shown below:

Table 5.37
Depreciation for the year 2012-13 Proposed by the Board

Particulars	Depreciation for the assets created during the last 12 years			Depreciation for the old assets (more than 12 year old)			Total depreciation
	Gross value of the assets	rate (CERC tariff norms 2009-13)	Amount	Gross value of the assets	Rate (considering the residual value)	Amount	
	(Rs.Cr)	(%)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	
Land	203.67	0.00	0.00	128.31	0.00	0.00	0.00
Building	392.99	3.34	13.13	215.64	2.17	4.68	17.81
Hydraulic works	542.63	5.28	28.65	559.49	0.70	3.92	32.57
Other civil works	366.54	3.34	12.24	55.77	2.17	1.21	13.45
Plant & Machinery	3183.17	5.28	168.07	1155.38	2.05	23.68	191.75
Lines, Cable networks etc	3976.50	5.28	209.96	1208.79	2.05	24.77	234.73
Vehicles	4.86	9.50	0.46	11.19	0.00	0.00	0.46
Furniture & Fixtures	9.83	6.33	0.62	7.28	4.68	0.34	0.96
Office Equipments	46.27	6.33	2.93	5.31	4.68	0.25	3.18
Total	8726.46		436.06	3347.16		58.85	494.91

5.74 The asset addition for the year 2012-13 is worth Rs.978 crore, and assets created in 2001-02 amounts to Rs.494 crore and it would fall under old assets. Considering this, the depreciation for 2013-14 is estimated as shown below:

Table 5.38
Details of Depreciation for the year 2013-14 Proposed by the Board

Particulars	Depreciation for the assets created during the last 12 years			Depreciation for the old assets (more than 12 year old)			Total depreciation
	Gross value of the assets	rate (CERC tariff norms 2009-13)	Amount	Gross value of the assets	Rate (considering the residual value)	Amount	
	(Rs.Cr)	(%)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)	
Land	213.95	0.00	0.00	144.32	0.00	0.00	0.00
Building	387.27	3.34	12.93	270.66	2.17	5.87	18.81
Hydraulic works	593.06	5.28	31.31	598.33	0.70	4.19	35.51
Other civil works	387.35	3.34	12.94	69.17	2.17	1.50	14.44
Plant & Machinery	3374.92	5.28	178.20	1315.67	2.05	26.96	205.16
Lines, Cable networks etc	4188.41	5.28	221.15	1416.90	2.05	29.04	250.18
Vehicles	6.15	9.50	0.58	11.20	0.00	0.00	0.58
Furniture & Fixtures	10.12	6.33	0.64	8.38	4.68	0.39	1.03
Office Equipments	49.09	6.33	3.11	6.67	4.68	0.31	3.42
Total	9210.32		460.86	3841.30		68.27	529.13

5.75 The Board has also made adjustments for the depreciation for assets created out contributions and grants. For this, the Board has requested that the amounts collected under OYEC may also be considered for estimating depreciation. As per the estimates given by the Board, consumer contribution as on 31-3-2010 is as shown below:

Table 5.39

Summary of the Amount Booked under 'Contribution and Grants' as on 31-03-2010

Account Code	Item	Amount (Rs.Cr)
55.101 to 55.102	Consumers Contribution Towards Cost Of Capital Assets	164.89
55.103 to 55.107	Service Connection charges	256.19
55.108 to 55.124	OYEC (Priority) Charges	1764.79
55.201 to 55.311	Government Grants (APDRP, RGGVY etc)	456.50
55.401 to 55.501	Contribution from Local bodies, PWD, Government etc	311.54
	Total	2953.91

5.76 Out of the above, the year wise OYEC charges collected by the Board for different consumer categories are also given in the petition. The details are shown below:

Table 5.40

Details of the Amount Booked under 'OYEC' Charges as per Accounts of the Board

Year	Domestic	Commercial	Industrial LT	Industrial HT	HT non Domestic	EHT Industrial	LT/HT Distribution	EHT/for any purpose	Rapid Service connection charge Domestic	Rapid Service Connection Charge -CT Non-Domestic	Total
A/c	55.113	55.114	55.115	55.116	55.117	55.118	55.119	55.12	55.123	55.124	
As on											
1988-89	6.32	0.77	0.12	0.16	0.00	0.01	0.49	0.00	0.00	0.00	7.87
1989-90	11.92	1.65	0.72	0.02	0.55	0.03	0.73	0.00	0.00	0.00	15.62
1990-91	11.98	1.07	-0.23	0.17	0.09	0.08	0.51	0.00	0.00	0.00	13.67
1991-92	13.93	1.42	0.17	0.11	0.08	0.06	1.60	0.00	0.00	0.00	17.37
1992-93	15.09	1.51	0.26	0.21	0.03	0.09	0.81	0.00	0.00	0.00	18.00
1993-94	35.20	4.49	0.62	0.82	0.13	0.35	2.00	0.00	0.00	0.00	43.61
1994-95	38.24	3.00	0.14	2.07	0.01	0.24	1.47	0.00	0.00	0.00	45.17
1995-96	39.81	3.20	0.10	1.20	0.30	0.02	0.90	0.00	0.00	0.00	45.53
1996-97	41.98	3.31	0.23	0.88	0.25	0.05	0.96	0.00	0.00	0.00	47.66
1997-98	55.76	6.58	0.15	0.56	-0.40	0.00	1.18	0.01	0.38	0.16	64.38
1998-99	70.56	11.58	0.83	0.43	0.09	0.00	2.70	0.00	0.19	0.01	86.39
1999-00	65.65	11.24	0.29	0.21	0.28	0.00	1.89	0.00	0.00	0.02	79.58
2000-01	61.38	8.79	0.54	0.52	0.37	0.00	2.52	0.00	0.13	0.11	74.36
2001-02	64.76	9.99	0.37	0.38	0.22	0.44	2.06	0.20	0.03	0.00	78.45
2002-03	85.13	9.86	0.62	0.62	0.06	0.21	2.07	-0.20	0.03	0.02	98.42
2003-04	95.39	12.06	1.62	0.19	0.04	0.53	3.78	0.00	0.04	0.02	113.67
2004-05	99.04	10.68	0.41	0.27	0.08	0.01	3.98	0.12	0.02	0.01	114.62
2005-06	97.21	9.82	0.76	0.41	0.40	0.00	10.38	0.00	0.00	0.00	118.98
2006-07	92.67	16.30	2.04	0.71	0.11	0.57	6.71	0.00	0.00	0.01	119.12
2007-08	98.07	23.92	-0.27	0.09	0.39	0.10	7.14	0.00	0.01	0.06	129.51
2008-09	116.83	41.38	2.44	1.34	0.44	0.17	18.33	5.11	0.04	0.01	186.09

2009-10	152.28	48.61	1.42	0.32	0.91	0.19	37.45	5.45	0.00	0.09	246.72
Total	1369.20	241.23	13.35	11.69	4.43	3.15	109.66	10.69	0.87	0.52	1764.79

5.77 The Board has estimated depreciation for consumer contribution excluding the amount received under OYEC charges. The depreciation estimated for the year 2013-14 is as shown below:

Table 5.41
Net Depreciation Proposed by the Board for the year 2013-14

Year	Function wise details of Depreciation at the rate of GFA (Without considering Consumer contribution)	Consumer contribution (less OYEC) charges	Depreciation applicable on Consumer contribution	Function wise split of depreciation duly considering the consumer contribution
Generation	166.84	0.00	0.00	166.84
Transmission	163.73	0.00	0.00	163.73
Distribution	198.56	2128.82	93.29	105.27
Total	529.13	2128.82	93.29	435.84

5.78 The gross depreciation for the year 2013-14 has been estimated at Rs.529.13 crore and after excluding depreciation of Rs.93.29 crore applicable to consumer contribution, the net depreciation claimed for 2013-14 is Rs.435.84 crore.

Objections of Stakeholders

5.79 According to the HT-EHT Association, there is no notification of FoR to adopt the CERC norms for depreciation applicable for the period 2009-2014 for distribution. Hence, as such the CERC (Terms and Conditions of Tariff) Regulations, 2009 are not applicable in Kerala till now and valid regulation for depreciation is CERC (Terms and Conditions of Tariff) Regulations, 2004. The Association also strongly opposed the argument of KSEB that amount collected under OYEC scheme is not to be considered as consumer contribution. According to the Association such amount is actually the contribution from consumers towards creation of assets for securing last mile connectivity. Hence, allowable depreciation as per the old norms is only Rs.445 crore and after disallowing the depreciation for assets created out of consumer contribution, the net depreciation allowable will be Rs. 299 crore. M/s TCC Limited; Shri. Satheesh, CUMI, and Employee unions of M/s Binani Zinc limited stated that depreciation shall not be allowed on assets created out of consumer contribution. M/s TCC Limited stated that KSEB should maintain the records in line with CERC norms for claiming

depreciation. According to Shri. Satheesh, depreciation of Rs.289 crore is only to be allowed instead of Rs.435 crore claimed by the Board

Analysis and Decision of the Commission

5.80 The Board has claimed depreciation after considering the consumer contribution. The Board has separated the assets created prior to 12 years and applied different depreciation rates for each of the period. The Commission has examined the estimates given by the Board in line with the provision of CERC regulations. 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.*

- 5.81 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 Board are insufficient to apply strictly the depreciation as per the norms. The Board has to maintain accounts as per the principles of CERC regulations for claiming the depreciation.
- 5.82 Another claim of the Board is that of the total contributions received as on 31-3-2010, about Rs.1764.79 crore is towards OYEC charges, which is not linked to assets and collected for maintaining priority for service connection. However, the argument of the Board is not justifiable, as the OYEC charges are claimed as capital receipts and it cannot be successfully argued now that the same has not been utilized for creating assets, unless sufficient evidence to support claim is available. Hence, the Commission is not in a position to accept this claim.
- 5.83 The Board has estimated depreciation based on vintage of assets claiming it to be as per the CERC norms. However, CERC norms 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 is not provided by the Board. 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 KSEB purely as an adhoc measure, without prejudice to modifying the allowed claim as per the norms, as and when more information is made available. The Board has estimated Rs.529.13 crore as depreciation for the year 2013-14 for all assets including those created from contributions and grants. The total GFA as on 31-3-2013 is estimated at Rs.13051.79 crore. The contribution/grants for creation of assets as on 31-3-2013 given by the Board is Rs.3893.61 crore, which forms about 29.8% of the GFA. **Accordingly, 70.2% depreciation estimated by the Board ie., Rs.371.45 crore is provisionally allowed after deducting the depreciation for assets created out of contribution.**
- 5.84 The Commission would like to reiterate that 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.”

This condition is applicable for 2013-14 also.

Employee Cost

5.85 The Board has projected the employee cost for 2013-14 at Rs.2551.50 crore. The Board has revised the employee cost for 2012-13 to Rs.2153.72 crore, and the actual employee cost in 2011-12 as per accounts is Rs.1903.24 crore.

5.86 The total number of employees as on 31-3-2012 is reported to be 31,113, of which 24,994 is in distribution. The change in the number of employees over the years is given below:

Table 5.42
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
<i>Increase over previous period</i>		954	1842	1228

5.87 The Board has stated that at present, the Board has to provide HRA, project allowance etc., as per the provisions of wage agreement with trade unions of employees. The employees of the Board are also eligible for earned leave encashment 30 days in a year and terminal surrender of 300 days. The actual EL encashment for 2011-12 was Rs.81.16 crore and provision for Rs.87.50 crore is made for 2012-13. The proposed provision on this account for 2013-14 is Rs.94 crore. The employee cost estimated for 2013-14 by the Board is as shown below:

Table 5.43**Details of Salary and Benefits of Serving Employees Proposed by the Board**

Particulars	2010-11	2011-12	2012-13	2013-14
	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
Basic Pay	406.59	685.98	720.28	756.29
DA at the beginning of the year *	317.14	373.28	403.20	543.11
DA released/ provision made during the year	40.79		57.02	59.88
Other allowances (HRA, Project allowances)	27.62	38.50	40.25	43.75
Over Time/ holiday wages	0.20	0.25	0.27	0.30
Bonus	5.37	5.80	6.50	6.50
Medical reimbursements	3.80	4.55	4.75	5.00
Compensation	0.30	1.01	1.00	1.00
Leave salary & Pension Contribution	0.09	0.20	0.25	0.25
Earned Leave encashment	63.45	81.16	87.50	94.00
Staff Welfare	1.10	1.56	1.80	2.05
Provision made for pay revision due from July-Aug 2008 / 2013	107.15	-	-	82.55
Total	973.60	1,192.29	1,322.82	1,594.67
Less amount capitalized from employee cost	90.13	120.91	136.62	163.22
Net Employee cost	883.47	1,071.38	1,186.20	1,431.45
* DA as on 31.03.2012 -55.978% DA as on 31.03.2014 -87.646%	DA as on 31.03.2013 -71.812%			

5.88 Pension and terminal benefits to retired employees for 2013-14 is estimated at Rs.956.83 crore. According to the Board, the pension payments are firm commitments and same has to be provided in line with government policies. The total pension liabilities estimated is as given below:

Table 5.44
Estimate of Pension and Terminal Benefits

Particulars	2011-12 (provisional)	2012-13 (Revised)	2013-14
	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
Annual Pension	628.78	714.16	832.53
Commutation	21.47	27.50	27.50
DCRG	25.37	30.80	30.80
Medical, interim relief and festival allowance	5.01	5.94	6.00
Provision for pension revision	30.41	52.50	60.00
Total	711.04	830.90	956.83

5.89 The Board has claimed that the Government has decided the funding pattern of terminal benefits in principle on the report of M/s PFC on the subject matter.

However, till date the pension liabilities are unfunded and has been accounted as per the principle of “pay as you go” as in Government. Once the funding pattern is finalized the Board will approach the Commission for approval.

5.90 The Board in the petition has given several grounds to support the claim on employee cost at actuals. According to the Board, the Commission has disallowed the employee cost of about Rs.1246.19 crore from 2009-10 to 2012-13; out of which the total amount disallowed on account of DA alone during the period is Rs.702.02 crore. According to the Board, the disallowance of DA by the Commission is irrational, as the DA allowed is only percentage increase over DA actually allowed during the year 2008-09 and not on the basic salary of the employees. As in the case of DA, the Commission has disallowed pension to the tune of Rs.429.08 crore. The Board stated that the pension claims to the retired employees cannot be denied unless there is a separate mechanism for payment of the same. The disallowance in basic pay is to the tune of Rs.43.95 crore during the period.

5.91 The Board has given supporting details for justifying the employee costs. According to the Board, there is considerable business growth since 2003-04.

Table 5.45

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

Year	Consumer strength	Annual energy sale	Connected load	No of S/s	EHT lines	HT Lines	LT lines	Dist. Transformers	No of section offices	Revenue from sale of Power
	(Lakhs)	(MU)	MW	(Nos)	(Km)	(Km)	(Km)	(Nos)		(Rs. Cr)
2003-04	73	8910.84	9910	229	8958.00	33280.00	201638.00	34758.00	556	2756.09
2004-05	78	9384.40	10334	250	9220.00	34235.00	207711.00	36640.00	558	2917.36
2005-06	83	10269.80	10907	267	9478.00	34596.00	217899.00	37724.00	603	3367.3
2006-07	87	11331.00	11466	280	9652.00	36419.00	226128.00	39848.00	619	4009.71
2007-08	90	12049.85	12378	298	9825.00	38235.00	234286.00	42401.00	640	4696.95
2008-09	94	12414.32	15267	314	10012.00	41284.00	241849.00	46510.00	641	4893.02
2009-10	97	13971.09	15867	337	10279.00	44682.00	249687.00	52300.00	641	4747.17
2010-11	101	14547.90	16682	340	10414.00	48232.00	256616.00	58427.00	694	5641.26
2011-12	105	15980.53	17518	368	10714.00	53075.00	259479.00	63381.00	697	5984.6

5.92 In the Petition, the Board has mentioned that over the years, there is 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. The Board also submitted that the

cumulative inflation level from 2003-04 to 2012-13 is 74.38%. however, the increase in employee cost per unit over 2003-04 is only 53.93%. If the increase in per unit employee cost is in line with inflation, it should have been Rs.1.73 per unit, whereas it is only Rs.1.36 per unit in 2012-13.

- 5.93 The Board has submitted that increase in employee cost due to pay revision is about 14% of the pre-revised pay scale and, the same cannot be met through increase in productivity alone. As a government utility, the Board 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

- 5.94 Many stakeholders commented adversely on the projections of the Board on employee cost. Some of them argued that increase in employee cost shall not be allowed till the financial position of the Board improves. M/s TCC stated that employee cost needs to be allowed based on CPI-WPI basis. The representatives of Ice Manufactures Association stated that public is not aware of the standards of performance to be followed by the Board and the proposal of the Board is one sided and the employees have to be more responsible. East Hill Resident's Association, Kozhikode stated that the Board should reduce expenses and the employees should work sincerely to reduce the cost of electricity. The Commission should take long term view of the sector.
- 5.95 M/s. Infopark Chertala stated that pre-paid metering system may be introduced for certain category of consumers. If incentives may be given for the consumers, the system can be extended easily. Now remote monitoring system is available, which will reduce the cost of administration, meter reading, theft etc., which can be easily monitored and remedial actions can be taken up easily. Shri. Jose Paul, Koratty suggested that employees in the mazdoor category may be employed for line works, which are at present out sourced. He suggested that the salary revision shall not be allowed to the Board till it functions profitably.
- 5.96 Shri Dijo Kappan mentioned that the employee expenses has to be compared with other States. Shri. Sukumaran, Powdikonam suggested that additional

benefits given to the employees of the Board should be stopped. The employees should provide service to the consumers in tune with the benefits they receive.

- 5.97 Shri. Mundela P. Basheer, Pothujanavedi, in his submission stated that the management and employees of the Board are responsible for the financial loss incurred by the Board. The management should prioritize the expenses and reduce the wasteful expenses. The salary of employees of the Board is much higher than that of the employees of the Government. The salary increase has to be frozen for some time. He suggested that there should be a work study, based on which employee strength has to be regulated.
- 5.98 The HT-EHT Association objected to the argument of KSEB that per the Electricity Act, the terms of service of employees shall be in no way inferior to the existing condition. According to the Association, this provision is applicable only when the unbundling process is completed and the employees are transferred to successor entities. The Association has sought the details of improvements in productivity to justify the wage increase and control run away employee costs, and stated that officers and workmen are hand in glove to ensure that wage costs are inflated without giving any thought to operational excellence. The Association rebutted the arguments of the Board that DA cannot be linked to WPI and CPI alone and DA should be allowed to KSEB employees as and when it is allowed to Government employees. The Board has ignored the direction of the Commission on work study. The manpower strength was largely contained till 2007-08, however, later the prudence has been thrown to the winds. In the truing up petition for 2010-11, the Board claimed that conversion of all section to model sections would result in surplus of about 5000 posts, and how the present increase in staff can be justified. The total sanctioned strength is 30862 and working strength is 31113. The Association has been arguing that non-critical jobs should be outsourced to reduce the costs. The Association with the support of data stated that CAGR of per employee cost from 2003-04 to 2007-08 was approximately 3%, however, after 2007-08 this has grown to 15%. This is an attempt to create fait accompli situation when unbundling is completed. The Boards argument that per unit increase in actual employee cost is lower than when linked to inflation is completely incorrect. In fact, prudent practices were being attempted in between 2003 to 2008, and now the actual wages are in excess of eligible wages by about 50%, compared to the claim of KSEB i.e., inflation adjusted wage per employee in 2012-13 is Rs.39780 where as the actual is Rs.59733. The per unit employee cost has increased from Rs.0.75 per unit to Rs.1.38 per unit in a span of 6 years.

- 5.99 The Association argued that it is not fair to charge the consumers to cover the cost of retired employees and hence pension liabilities of the retired employees is to be separated. Even now the pension fund is not created. The APTEL has categorically ruled that benefits should be made available for rewarding efficiency in performance, automatic availability of benefits generates inefficiency and indolence. Hence pay revisions are not mandatory and automatic and are discretionary. The bulk consumer base in Kerala is domestic consumers, who are not entitled to automatic pay increases and pay outs, and how can the captive consumers survive if there is automatic pass through of cost without scrutiny. As per the estimates of the Association, the Board is eligible for Rs.1772 crore only based on inflation weighted method.
- 5.100 The Standing council of Trade Unions stated that the employee cost has increased by Rs.1881 crore in between 2002 and 2013-14. The projected expenses is about 53% higher than the approved level for previous year. Entire hydel generation is required to meet the employee expenses or 30.89% of the total energy requirement is required to meet employee cost. The increase in employee cost has to be met from productivity improvements and increase in efficiency. The employee cost has increased from Rs.470 crore in 2007 to 1595 crore now, which shows an increase of 239% increase. The average salary per employee has increased from Rs.21292/- to Rs.42771/-. The energy (in MU) sold per employee has increased from 0.6 MU to 0.69MU.
- 5.101 M/s Binani Zinc Limited stated that the revenue gap projected by the Board is the financial loss of the Board contributed by the increase in expenses. In a time of crisis, the Board has proposed to increase the expenses by 15% in terms of interest, depreciation, employee cost, R&M and A&G expenses. According to them, if the high cost of power is removed, the loss will come down drastically.
- 5.102 KSEB Officers Association in their submissions stated that the Kerala power sector has its own peculiarities such as high consumer base and low average consumption with wide spread transmission and distribution network. The cost structure in Kerala is not high. They suggested to have proper benchmarking of costs. The no. of employees is to be benchmarked with number of consumers and R&M with assets. The employees and employee cost weighted length of line in circuit kilometres is less than 60,000 in Kerala where as all India average is about 1.2 lakhs. According to the Association, the approach of the Commission in allowing the expenses is not correct and not in line with the directions of Hon. APTEL. The methodology followed by the Commission does not address the

basic cost drivers such as assets (length of line, number of bays, generation capacity etc), number of consumers, sale of energy, inflation etc., but addressed only inflation. The approach of CERC and FoR in this regard is to be aligned in the case of Kerala.

5.103 Shri. Alexander argued for restriction of special allowance to employees and stopping salary revision till the financial position of the Board improves.

5.104 Shri. Satheesh, CUMI with supporting documents argued for reduction in employee expenses. There is alarming increase in employee cost, which has increased 3.8 times, from Rs.671 crore in 2002-03 to Rs.2552 in 2013-14. No. of employees has increase about 27%. The cost of serving employees has increased 4.49 times from Rs.356 crore in 2002-03 to Rs.1595 in 2013-14. The average monthly salary has increased by 3.53 times from Rs.12089 to Rs.42721. If the monthly salary is increased considering the inflation alone, it should increase by only Rs.27352. The employee cost per consumer has increased 2.47 times from Rs.958 to Rs.2363 during the above period. Another striking feature is that the in order to meet the employee cost, entire internal generation is required if assessed at average tariff. It can also be seen that the proposed revenue from entire domestic consumers is required to meet the projected employee cost. He also refuted the claims of the Board on performance of employees. In the last 6 years, the employee cost increased by 2.4 times, but the consumer/employee has reduced and MU/employee has increased only by 15%. According to him any business that pays more than 30% of the revenue as ways will not function sustainably. KSEB has ignored all the directions of the Commission on employee costs.

5.105 Shri. Shaji Sebatain, KSSIA stated that the employee cost of the Board is high. The Board has made threatening statements in the petition such as reduction in employee cost will lead to employee unrest and ability to provide quality power. He requested that the Commission may direct KSEB to withdraw such statements.

Analysis and Decision of the Commission

5.106 Many of the stakeholders expressed their concern over the increase in employee cost. The Commission had also repeatedly dealt with this issue in detail, though no concerted efforts are seen taken by the Board in this regard. The Commission since inception had issued several directions to KSEB to control the expenses and to improve the productivity so as to regulate high employee expenses. As per the

proposal of the Board, the employee cost is still about 32% of the revenue after about 30% increase in tariff. On a per unit basis, employee expenses is about Rs.1.38 per unit and consumes about 40% of the revenue.

5.107 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, which was continued in 2012-13 also. The Commission is of the view that the same method is to be followed for this year also. As per the Government of India reports, the inflation based on CPI and WPI recorded in the past is as follows:

Table 5.46
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	167.2	7.11%	213.50	9.58%

5.108 Based on the above, the inflation recorded based on CPI is 9.58% and WPI is 7.11% for 2012-13. On 70:30 basis, the composite increase would be about 8.89%. Considering the prevailing trends in inflation, same percentage as that of 2012-13 is applied for the year 2013-14 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 2013-14.**

5.109 As in the case of previous year, the Commission used financial year 2008-09 as a base year since latest truing up was carried out for 2008-09. 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. Accordingly, the allowable employee cost for 2013-14 is estimated as follows:

Table 5.47
Approved Estimate of Employee Cost for 2013-14

	Actual (Rs.cr)	Estimates (Rs.crore)				Approved expenses (Rs. crore)
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
<i>CPI rate of Increase (FY adjusted)</i>		12.37%	10.45%	8.39%	9.58%	9.58%
<i>WPI Rate of increase</i>		3.81%	9.50%	8.99%	7.11%	7.11%
<i>Basic Pay increase</i>		3.00%	3.00%	3.00%	3.00%	3.00%
Basic Pay Projection	378.70	390.06	401.76	413.82	426.23	439.02
<i>Other components</i>						
CPI component (70%)	613.54	689.43	761.45	825.34	904.42	991.06
WPI Component (30%)	262.94	272.96	298.90	325.78	348.93	373.73
Total	1,255.18	1,352.45	1,462.11	1,564.94	1,679.58	1,803.81
<i>% increase</i>		7.75%	8.11%	7.03%	7.33%	7.40%

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 are as per the respective ARR&ERC Orders.

5.110 **Based on the above formula, the approved employee cost for 2013-14 is Rs.1803.81 crore.** The Board shall limit the employee expenses 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 2013-14.

5.111 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.”

5.112 The Board has not given any feed back on the comments. The Commission would urge the management of the Board to have a comprehensive look at the internal reform measures required and to implement the same in a time bound manner.

A&G Expenses

5.113 Administration and General expenses (net of electricity duty) projected by the Board for 2013-14 is Rs.137.85 crore against Rs.109.41 crore for 2011-12 (actual). The Section 3(1) duty is estimated at Rs.106.27 crore. According to the Board, A&G expenses are highly amenable to inflation and business growth. The increase in A&G expenses, according to the Board, is due to increase in energy sale (7% to 8%) and the number of consumers being served has increased by about 5 to 6%. Many components in the A&G expenses such as SRPC expenses and licence fee are new items. Some of the items could not even be linked to inflation. The average business growth during the last few years is about 7 to 8%, inflation is about 9.9% Considering this, a moderate increase of 15% increase in A&G expenses is expected in 2013-14. The A&G expenses projected by the Board for the year 2013-14 is as shown below:

Table 5.48
A&G Expenses Proposed by the Board for 2013-14

Sl. No.	Particulars	2011-12	2012-13		2013-14
		Provisional	ARR	Revise Estimated	Total
1	Rents, rates and taxes	5.56	5.00	6.00	6.50
2	Insurance	0.41	0.50	0.50	0.55
3	Telephone/telex/internet charges, etc.	3.46	4.75	4.75	5.25
4	Legal charges	2.00	3.75	3.75	4.00
5	Audit fees	2.30	2.75	2.75	2.75
6	Consultancy charges	0.40	0.85	0.85	0.98
8	Other Professional charges	4.04	0.33	0.33	0.38
9	Conveyance and vehicle hire charges	34.08	30.09	36.00	42.00
10	Sub Total (Total of 1to 9)	52.25	48.02	54.93	62.41
11	OTHER EXPENSES				
	a) Fees and subscriptions	0.47	0.80	0.80	0.85
	b) Printing & stationary	9.18	10.50	10.50	11.00
	c) Advertisements, exhibition publicity etc	8.31	9.00	9.00	9.50
	d) Contributions	1.16	1.20	1.20	1.25
	e) Electricity charges	5.12	5.50	5.50	5.75
	f) Water charges	0.24	0.30	0.30	0.32
	g) Entertainment	0.29	0.30	0.30	0.35
	h) Training expenses	0.71	4.50	3.00	3.47
	i) Miscellaneous expenses	13.79	20.00	15.00	11.25
	j. DSM Activities	0.96		1.50	7.50
	k. SRPC expenses	0.72		0.80	0.85
	l. Sports and related activities	0.28		0.30	0.35
12	TOTAL OF OTHER EXPENSES	41.23	52.10	48.20	52.44
13	Freight	9.33	14.23	14.23	15.50

14	Other purchase related expenses	6.60	4.50	7.00	7.50
	Sub Total	15.93	18.73	21.23	23.00
	Total A&G expenses excluding section 3(1) duty	109.41	118.85	124.36	137.85
15	Ele. Duty u/s 3(I), KED Act	93.31	96.39	99.00	106.27
	GRAND TOTAL	202.72	215.24	223.36	244.12

5.114 According to the Board, training expenses, DSM expenses etc., are separately considered in 2013-14, the Board is planning to roll out training programmes and also DSM activities for which Rs.7.5 crore is earmarked. Further, with the efforts of the Board to provide “electricity on demand to all”, there is sizable increase in procurement of materials and execution of schemes. All these activities are expected to increase the charges of freight, travelling of personnel and of purchase related activities.

Objections of Stakeholders

5.115 The Standing Council of Trade Unions have stated that A&G expenses shall not be allowed more than the approved expenses in the last year. The HT – EHT Association and Cochin Chamber of Commerce argued that A&G expenses are to be allowed based on inflation index. The eligible claim for 2013-14 thus will only be Rs.93 crore only. Shri. Satheesh, CUMI stated that the A&G expenses have been projected to increase by 185% over the approved amounts. The miscellaneous expenses claimed under A&G expenses have not been explained.

Analysis and Decision of the Commission

5.116 As pointed out in earlier orders, the A&G expenses is a controllable items and hence escalation over the inflation rate is not necessary for this item. The A&G expense other than electricity duty in 2007-08 was only Rs.47.81 crore. In its place, the expenses projected for 2013-14 is Rs.137.85 crore, ie., an increase of about three times in six years. The amount approved for 2012-13 was Rs.86.11 crore and the projection for 2013-14 is about 60% higher. As in the case of other items of O&M expenses, the Board 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 2013-14

5.117 Accordingly, the methodology based on CPI:WPI index for allowing the A&G expenses is used for approving the A&G expenses for 2012-13. The A&G expenses based on the CPI:WPI will be thus worked out as follows:

Table 5.49
Approved A&G Expenses for 2013-14

	Actual	Estimates				Approved expense
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
	Rs. crore	Rs.crore	Rs.crore	Rs.crore	Rs.crore	Rs.crore
CPI weightage (70%)	42.69	47.97	52.98	57.43	62.93	68.96
WPI weightage (30%)	18.30	19.00	20.80	22.67	24.28	26.01
Total A&G Expenses	60.99	66.97	73.78	80.10	87.21	94.97
Yearly increase		9.80%	10.18%	8.56%	8.88%	8.89%

Note : The figures arrived at for the intermediate years (2009-10, 2010-11, 2011-12 & 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

5.118 Hence, the A&G expenses to be allowed is Rs.94.97 crore for 2013-14. 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 2013-14.**

Repair and Maintenance Expenses:

5.119 The Board proposed R&M expenses for the year 2013-14 at Rs.304.56 crore which is 21% more than the actual R&M expenses for 2011-12. According to the Board, the increase in R&M expenses is limited to 10% on the actual of the previous year. The Board had proposed the R&M expenses for 2012-13 at Rs. 326.27 crore, which has been now revised as Rs.276.87 crore. As percentage to GFA, R&M expenses proposed for 2013-14 is 2.4%, where as the revised estimates for 2012-13 is 2.36%. The actual for 2011-12 is 2.31% as shown below:

Table 5.50
R&M as percentage of Gross Fixed Asset

Details of Assets	2011-12			2012-13			2013-14		
	GFA at the beginning of the year	R&M expenses	%	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)	
Buildings	555.73	5.77		608.63	6.35		657.93	6.98	
Hydraulic Works	1073.24	2.12		1102.10	2.33		1191.37	2.57	
Other Civil Works	391.41	6.67		422.29	7.34		456.50	8.07	
Plant and Machinery	4058.70	63.81	1.57	4338.54	70.19	1.62	4690.58	77.21	1.65
Lines, Cable Network etc.	4720.60	168.05	3.56	5185.31	184.85	3.56	5605.33	203.34	3.63
Vehicles	14.56	4.12		16.06	4.53		17.36	4.99	
Furniture and Fixtures	16.05	0.10		17.11	0.11		18.50	0.12	
Office Equipments	47.86	1.06		51.60	1.17		55.78	1.28	
Total	10878.15	251.70	2.31	11741.64	276.87	2.36	12693.35	304.56	2.40

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

Table 5.51
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	Overall increase	% of increase over 31-03-2009
	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(%)
Generation	3132.03	3401.75	3695.14	3806.87	674.84	21.55
Transmission	3029.03	3253.94	3441.44	3735.89	706.86	23.34
Distribution	3088.04	3529.34	4067.19	4530.86	1442.82	46.72
Total	9249.11	10185.03	11203.77	12073.62	2824.52	30.54

5.121 Board further claimed that value of assets cannot be taken as the yardstick for age of assets. Hence, even though substantial addition is made on the monetary value of assets, it cannot be construed as corresponding increase in physical assets. The Board has given the physical asset addition from 1999-00 onwards as shown below:

Table 5.52
Addition to Physical from 1990-2000 to 2010-11

Year	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	Assets in existence prior to 12 years % of total asset
Installed Capacity in MW	2351	2421	2602	2602	2614	2617	2644	2657	2671	2739	2746	2863	82
Step up transformer capacity MVA	2261	2346	2346	2346	2364	2364	2389	2389	2408	2448	2448	2684	84
Step down transformer capacity MVA	9363	10306	20573	11095	11827	12432	13231	13339	13808	14193	15288	16222	58
HT lines 11 KV (ckt.kms)	28672	30035	30971	32054	33280	34236	34596	36419	38235	41284	44682	48342	59
HT lines Total (ckt.kms)	28672	30128	31184	32370	33702	34830	35282	37220	39142	42360	45958	49681	58
EHT lines 220 KV (ckt.kms)	2576	2646	2646	2646	2650	2663	2709	2709	2710	2710	2728	2728	94
EHT lines 110 KV (ckt.kms)	3023	3407	3459	3496	3671	3742	3815	3842	3899	3916	3964	3999	76
EHT lines 66 KV (ckt.kms)	1910	2148	2161	2205	2216	2221	2269	2299	2310	2310	2310	2310	83
EHT lines Total (ckt.kms)	8622	9460	9564	9638	9992	10147	10339	10393	10508	10542	10656	10726	80
EHT S/s (Nos)	178	190	194	198	205	211	218	221	226	226	231	234	76
LT lines (ckt. Km)	180499	187169	191931	196974	201638	207711	217899	226128	234286	241849	249687	256449	70
Dist Trfrs (Nos)	29551	31329	32585	33455	34758	36640	37724	39848	42401	46510	52300	58104	51
Dist Trfrs (MVA)	3909	4182	4389	4437	4640	4858	5033	5157	5422	5937	6708	7320	53

5.122 Inflation influences the R&M cost and the inflation for the current year is about 9.90%. According to the Board, over the years, the increase in R&M expenses is under lines, cable and networks as given below:

Table 5.53
Asset Wise Details of R&M Costs Proposed by the Board for 2013-14(Rs.cr)

Particulars	2008-09	2009-10	2010-11	2011-12	2013-14			2013-14
	Actuals	Actuals	Actuals	Provisional accounts	ARR	KSERC approved	Revised estimate	Estimate
Plant & Machinery	41.12	52.93	61.28	63.81	84.59	195.95	70.19	77.21
Buildings	3.69	4.41	5.06	5.78	5.72		6.35	6.98
Other Civil works	4.99	5.34	5.63	6.67	7.32		7.34	8.07
Hydraulic works	1.79	2.01	1.99	2.12	2.60		2.33	2.57
Lines, Cable networks	81.29	101.53	152.09	168.05	217.20		184.85	203.34
Vehicles	5.18	5.50	4.70	4.12	6.69		4.53	4.99
Furniture & fixtures	0.22	0.50	0.12	0.09	0.20		0.11	0.12
Office equipment	0.52	0.94	0.98	1.06	1.75		1.17	1.28
Total	138.80	173.16	231.85	251.70	326.07	195.95	276.87	304.56
Increase over last year		24.80%	33.90%	8.60%	29.5%		10.0%	10.0%

As shown below the increase in R&M assets is mainly in distribution function.

Table 5.54
Function Wise Break up of R&M Costs given by the Board

Particulars	2008-09	2009-10	2010-11	2011-12	Average increase over 2008-09
	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	
Generation	14.9	18.14	19.3	21.68	13.32%
Transmission	36.7	45.76	52.61	56.19	15.26%
Distribution	87.2	109.26	159.94	173.83	25.85%
Overall	138.8	173.16	231.85	251.7	21.95%

Table 5.55
Function Wise Break up of R&M Costs given by the Board

Particulars	2010-11	2011-12	2012-13	2013-14
	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
Generation	19.30	21.68	23.85	26.23
Transmission	52.61	56.19	61.81	67.99
Distribution	159.94	173.83	191.21	210.33
Overall	231.85	251.70	276.87	304.56

Objections of Stakeholders

5.123 The HT-EHT Association in their objections stated that despite being argued that R&M costs are uncontrollable and dependent on age of assets, KSEB's revised estimate for R&M expenses is for Rs.277 crore for 2012-13 compared to the original claim of Rs.326 crore. The Commission has already rejected the claims of the Board and allowed only expenses indexed on average inflation rate, which needs to be continued for 2013-14 as well. If the method is followed the Commission needs to allow only Rs.211 crore towards R&M expenses for 2013-14.

Analysis and Decision of the Commission

5.124 The Commission in the previous years had decided that the employee costs and A&G expenses are to be allowed based on the methodology employed for approving the R&M expenses. Thus based on the CPI:WPI index, the allowable R&M expenses for the year 2013-14 is estimated as follows:

Table 5.56
Approved R&M Expenses for 2013-14

	2008-09	Estimates only				Approved expenses
		2009-10	2010-11	2011-12	2012-13	2013-14
	Rs. crore	Rs.crore	Rs.crore	Rs.crore	Rs.crore	Rs.crore
CPI weightage (70%)	97.15	109.17	120.57	130.69	143.21	156.93
WPI weightage (30%)	41.64	43.23	47.33	51.59	55.26	59.18
Total R&M Expenses	138.79	152.39	167.91	182.28	198.47	216.11
<i>Yearly increase</i>		9.80%	10.18%	8.56%	8.88%	8.89%

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

5.125 The average escalation rate based on 70:30 basis on CPI and WPI, the composite increase would be about 8.89% and the allowable R&M expenses for the year 2013-14 will be Rs.216.11 crore. The R&M expenses will be reassessed based on actual CPI&WPI during the truing up process for the year 2013-14.

Other Expenses

5.126 Other expenses include net prior period charges/income and other debits. No claim is made by the Board 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 Board are as follows:

Table 5.57
Other Expenses Proposed by the Board for 2013-14

Sl No	Particulars	2011-12 (Actual)	2012-13 (Revised)	2013-14 (Estimate)
		(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
1	Research and Development Expenses	0.52	1.50	1.50
2	Provision for Bad and Doubtful debts	1.92	12.00	15.00
3	Miscellaneous Losses and write-offs	8.84	3.00	3.00
	Total	11.28	16.50	19.50

5.127 The Board proposed Rs.15 crore as the provision for bad debts for the year 2013-14. The actual write off will be allowed after the prudence check during the truing up process. The Commission allows the other expenses as projected by the Board for 2013-14.

Return on Equity

5.128 The Board has claimed return on equity at the rate of Rs.15.5% on equity capital of Rs.1553 crore as per the CERC norms. The Board has stated that the Commission had not allowed equity at the rate of 15.5%. According to the Board, as per para 5.3(a) of Tariff Policy, the rates allowed for transmission may be adopted for distribution with appropriate modification taking into consideration the higher risks involved. Hence, higher return can be allowed as per the CERC for distribution. The Board also stated that it is continuing as a single entity under the provisions of Electricity Act 2003. Accordingly they have proposed return at 15.5% as RoE.

Objections of Stakeholders

5.129 The HT- EHT Association stated that in 2013-14, RoE need not be allowed as the assets are with the Government, if RoE allowed it will be in effect giving RoE to the Government of Kerala. Based on the estimate of the Association, the allowable Gross ARR will be Rs.8642 instead of Rs.11237 crore claimed by the Board. The net revenue requirements will be Rs.8308 and the average cost to serve for the year will be Rs.4.63 per unit. M/s TCC stated that RoE need not be given unless unbundling and re-vesting is completed.

Analysis and Decision of the Commission

5.130 The Commission has been maintaining a policy that legitimate return should be allowed to the entities to function in a financially viable manner. The Commission in the order dated 13-4-2012 has decided to consider the letter of the Government for providing return on Equity provisionally, till the matter is finalized based on the study reports of the Consultants engaged for developing regulations for determination of Tariff under section 62 of the Act.

5.131 Hence, the Commission would allow a return at the rate of 14% on the equity claimed by the Board i.e., 14% of Rs.1553 crore. Thus Rs.217.42 crore is allowed as return on equity for the year 2013-14.

Expenses and Interest Capitalized

5.132 The Board has provided Rs.62.71 crore towards interest and financing charges capitalized and Rs.168.24 crore towards expenses capitalized. The Commission provisionally allows these items in the ARR for 2013-14 as proposed by the Board pending the issue of capitalization of expenses of establishment expenditure in construction cum O&M activities.

Aggregate Revenue Requirements

5.133 The summary of Aggregate Revenue Requirements projected by the Board and approved by the Commission for 2013-14 is as follows:

Table 5.58
Approved Aggregate Revenue Requirements for 2013-14

Items	2013-14	
	Proposed by the Board	Approved by the Commission
	<i>Rs. crore</i>	<i>Rs. crore</i>
Generation of Power	410.04	207.77
Purchase of power	6,673.36	6,380.74
Interest & Finance Charges	588.42	465.37
Depreciation	435.84	371.45
Employee Cost	2,551.50	1,803.81
Repair & Maintenance	304.56	216.11
A&G Expenses	244.12	94.97
Other Expenses	19.50	19.50
Gross Expenditure (A)	11,227.34	9,559.73

Items	2013-14	
	Proposed by the Board	Approved by the Commission
	<i>Rs. crore</i>	<i>Rs. crore</i>
Less : Interest Capitalized	62.71	62.71
Less : Expenses Capitalized	168.24	168.24
Net Expenditure (B)	10,996.39	9,328.78
Statutory Surplus/ RoE(C)	240.72	217.42
ARR (D) = (B) + (C)	11,237.11	9,546.20

CHAPTER – 6

TARIFF AND NON-TARIFF REVENUE

Introduction

6.1 The Board has estimated the revenue for the year 2013-14 based on the current tariffs at Rs.8000.69 crore and the revenue expected at additional rates on account of power restrictions at Rs. 144.55 crore, totaling to Rs.8145.24 crore. The estimated sales for 2013-14 with sales at higher rates projected by the Board is shown below:

Table 6.1
Anticipated Energy Sale for the year 2013-14 Projected by the Board

Particulars	Energy demand for the year with the ongoing load shedding for 4/2013 & 05/2013)	Energy usage for the year expected without penalty for April & May-2013	Anticipated excess energy usage for the year with penalty for the month of April & May-2013
	(MU)	(MU)	(MU)
Domestic	9081.66	9035.97	45.69
Commercial	2545.68	2484.23	61.45
Industrial	1171.39	1136.02	35.37
Agricultural	297.04	297.04	0
Street Lights	307.08	307.08	0
LT II	18.9	18.3	0.6
Total	13421.75	13278.64	143.11
HT I	1747.44	1706.19	41.25
HT II	129.57	125.25	4.32
HTIII	8.71	8.71	0
HT IV	981.04	954.22	26.82
EHT I+EHT III	440.13	425.85	14.28
EHT II	984.59	960.77	23.82
Railway	166.44	166.44	0
Bulk	548.79	533.41	15.38
HT&EHT Total	5006.71	4880.84	125.87
Total	18428.46	18159.48	268.98

6.2 Based on the above sales, revenue from existing tariffs was projected by the Board for 2013-14 as per the details given below:

- (i) The revenue from sale of power (with the load shedding for the month of April & May-2013) was estimated at the prevailing tariff approved by the Commission with effect from 01-07-2012.
- (ii) The penalty for the excess usage was arrived at the appropriate energy rate of each consumer category.

6.3 The summary of the revenue projections of the Board for 2013-14 is as shown below:

Table 6.2
Revenue from Sale of Power Projected by the Board for the year 2013-14

Category	Sale of energy (at normal tariff)	Revenue from current tariff	Revenue expected at penal rate	Total
	(MU)	(Rs.Cr)	(Rs.Cr)	(Rs.Cr)
I. Revenue from sale of power				
Domestic	9078.66	2520.83	31.14	2551.97
LT II	18.90	14.82	0.39	15.21
Commercial	2545.68	1937.13	41.16	1978.29
Public Lighting	307.08	84.45		84.45
Irrigation & Dewatering	297.04	51.37		51.37
Industrial LT	1171.39	594.61	15.03	609.64
NPG	3.00	0.00		0.00
HT&EHT	4291.48	2438.03	50.02	2488.05
Railway Traction	166.44	84.10		84.10
Bulk Supply	548.79	275.36	6.81	282.17
Total revenue through Tariff	18428.46	8000.69	144.55	8145.24

6.4 Vide letter dated 22-02-2013, the Board has revised the revenue projections slightly. As per the revised estimates, the revenue from sale of power is projected at Rs.8020.14 crore. However the Commission for the purpose of this petition uses the original estimates of the Board.

6.5 The non-tariff income projected by the Board for 2013-14 is Rs.333.20 crore. It includes meter rent, miscellaneous charges, rebate, interest from banks etc. The meter rent is estimated at Rs.167.50 crore. The consumer strength as on 1-4-2012 was 104.54 lakh. The increase in number of consumers expected in 2012-13 and 2013-14 are 3.32 lakhs and 3.5 lakhs respectively. Accordingly, the revenue from meter rent was projected as Rs.167.50 crore.

6.6 Miscellaneous Charges include charges such as unconnected minimum, testing fee, minimum guarantee charge, theft recovery, meter box charges, power allocation charges etc. The projection for 2012-13 and 2013-14 is Rs.50 crore. Rebate is the incentive receivable by the Board 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. Due to financial crunch, the Board is availing maximum credit limit of 60 days for making payment to CPSUs. The rebate received so far for 2012-13 is Rs.9 crore and the projected figure for 2013-14 is Rs.35 crore. The Board has proposed interest income from banks for

the year 2013-14 at Rs.3.50 crore. The interest is on account of balance fixed deposit meant for pension fund amounting to Rs.505 crore as on 31-3-2012, and the deposit is due to mature in December 2012 to May 2013. Interest for the amount is projected till the date of maturity for the year 2013-14.

- 6.7 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.40 crore is expected under this head. Hence the total non-tariff income expected for the year 2013-14 is Rs.333.20 crore as shown below:

Table 6.3
Non-Tariff Income Projected by the Board for 2013-14 (Rs.crore)

Sl No	Particulars	2011-12	2012-13			2013-14
		Provisional	ARR	KSERC	Revised	Total
		(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)
1	Meter Rent /Service Line Rental	158.14	165.00	165.00	165.00	167.50
2	Miscellaneous Charges. Reasonable cost for providing supply, Testing fee, Reconnection fee, Penal charges etc	60.31	30.00	50.00	50.00	50.00
3	Interest on Staff Loans and Advances	0.36	0.25	0.25	0.25	0.20
4	Interest on Advances to suppliers/ Contractors	2.13	2.75	2.75	3.00	3.00
5	Interest from Banks	65.95	56.14	56.14	56.14	3.50
6	Rebate Received	81.36	40.00	40.00	15.00	35.00
7	Income from sale of scrap etc.	27.25	32.00	32.00	32.00	32.00
8	Miscellaneous Receipts	49.00	40.00	40.00	40.00	42.00
9	Wheeling charges recoveries	6.36	0.00	0.00	0.00	0.00
	Grand Total	450.86	366.14	386.14	361.39	333.20

Total Expected Revenue from charges

- 6.8 The total revenue from tariff and revenue from non-tariff income estimated by the Board for the year 2013-14 is Rs. 8478.44 crore as shown below:

Table 6.4
Total Expected Revenue from Charges estimated by KSEB for 2013-14 (Rs.crore)

Particulars	2011-12	2012-13	2013-14
	(Provisional)	(Revised)	(Estimate)
Tariff Income	5593.01	7636.84	8145.24
Non- Tariff Income	450.86	361.39	333.20
Total Income	6043.87	7998.23	8478.44

Analysis and Decision of the Commission

6.9 As detailed in chapter 2, the Commission has revised the sales estimates for the year 2013-14. The Board has estimated that additional revenue on account of power restrictions for the months of April and May 2013 will be Rs.144.55 crore. Based on the revised sales and income expected through excess charges under power restrictions, the total revenue from sale of power at the existing tariffs for the year is estimated as given below:

Table 6.5
Sales and Revenue Approved for 2013-14

Tariff Category	Estimated by the Board			Approved by the Commission		
	Sales (MU)	Revenue at Present Rates (Rs.crore)	Average Tariff (Rs./kWh)	Sales (MU)	Revenue at Present Rates (Rs.crore)	Average Tariff (Rs./kWh)
LT I&II Domestic	9098	2,535.64	2.78	8936	2,493.44	2.79
LT IV Industrial,	1171	594.61	5.08	1125	574.7	5.11
LT V Agricultural	297	51.37	1.73	317	54.31	1.72
LT VI Non-Domestic	699	511.37	7.32	695	509.15	7.33
LT VII Commercial	1847	1,425.75	7.72	1837	1,419.37	7.72
Pub lighting	307	84.45	2.75	279	76.61	2.75
LT Total	13419	5,203.20	3.88	13188	5,127.57	3.89
HT- I Industrial	1747	900.97	5.16	1748	905.48	5.18
HT-II Non-indu/Non-comm	130	71.91	5.55	114	67.63	5.92
HT III Agriculture	9	3.04	3.49	8	3.62	4.54
HT-IV Commercial	981	778.93	7.94	1072	827.68	7.72
Total HT	2867	1,754.86	6.12	2942	1,804.41	6.13
EHT -66kV	372	183.19	4.92	369	182.43	4.95
EHT-110 kV	985	462.34	4.70	976	473.66	4.85
EHT 220kV	68	37.65	-	68	37.43	5.5
Railways	166	84.10	5.05	144	75.02	5.22
Bulk Supply	549	275.36	5.02	553	295.98	5.35
Non-paying group	3					
Total	18428	8,000.69	4.34	18,239	7996.49	4.38
Revenue at Excess rates during April and May 2013		144.55			144.55	
Total		8,145.24			8,141.04	

6.10 The Commission has examined the projections of non-tariff income of KSEB. The projections are considerably lower in 2013-14 compared to 2011-12. The reduction is mainly in interest from banks, rebate received, and miscellaneous charges. The Commission has allowed the Board to recover the reasonable cost of providing supply, hence the reduction in revenue from miscellaneous charges is not reasonable. Similarly, for miscellaneous receipts, there is no reason that that it will reduce and has to be at least at the level in 2011-12. In the case of rebate from

CPSUs, the Commission has been allowing the power purchase cost on the CGS in the ARR, and hence there is no reason why prompt payment cannot be effected. However, considering the shortage of funds experienced in 2012-13, estimates for the year 2013-14 is revised as Rs.40 crore, which is the same level as that approved in 2012-13. Regarding interest from banks, the Board has not yet setup the pension fund and the fixed deposits meant for creating pension funds still remain as such. Thus the reduction proposed in the interest is also not reasonable. However, the Commission is not making any adjustment on this account. Hence, the Commission re-estimates the non-tariff income as Rs.355.25 crore as against Rs.333.20 crore projected by the Board as shown below.

Table 6.6
Approved Non-Tariff Income for 2013-14

Particulars	2011-12	2012-13	2013-14	
	Provisional	Approved	Projected	Approved
	(Rs Cr)	(Rs Cr)	(Rs Cr)	(Rs Cr)
Meter Rent	158.14	165.00	167.50	167.50
Miscellaneous Charges	60.31	50.00	50.00	60.00
Interest on Staff Loans and Advances	0.36	0.25	0.20	0.25
Interest on Advances to suppliers/ Contractors	2.13	2.75	3.00	3.00
Interest from Banks	65.95	56.14	3.50	3.50
Rebate Received	81.36	40.00	35.00	40.00
Income from sale of scrap etc.	27.25	32.00	32.00	32.00
Miscellaneous Receipts	49.00	40.00	42.00	49.00
Wheeling charges recoveries	6.36	-	-	-
Grand Total	450.86	386.14	333.20	355.25

6.11 Based on the above, the total revenue available for the year 2013-14 at the existing tariffs are as shown below:

Table 6.7
Approved Revenue from Existing Tariff & Non-Tariff Income for 2013-14

Particulars	2013-14 (Rs.crore)	
	Projection	Approved
Tariff Income	8,145.24	8,141.04
Non- Tariff Income	333.20	355.25
Total Income	8,478.44	8496.29

6.12 As shown above, the total revenue from the existing tariff and non-tariff income approved for the year 2013-14 is Rs.8496.29 crore.

CHAPTER – 7

SUMMARY OF ARR & ERC FOR 2013-14

- 7.1 The Board has, in the ARR&ERC for 2013-14, estimated the revenue gap at Rs.2758.67 crore considering the ARR of Rs.11237.11 crore and ERC of Rs.8478.44 crore.
- 7.2 As against the estimates of the Board, the Commission considered the proposal in details and arrived at the Aggregate Revenue Requirement of Rs.9546.20 crore and total Expected Revenue from Charges of Rs.8496.29 crore as shown below:

Table 7.1
APPROVED ARR&ERC FOR 2013-14

Items	2013-14	
	Proposed by the Board	Approved by the Commission
Energy Sales (MU)	18428	18239
T&D Loss (%)	14.91%	14.73%
Energy Requirement (MU)	21657	21390
Aggregate Revenue requirements	Rs. crore	Rs. crore
Generation of Power	410.04	207.77
Purchase of power	6,673.36	6,380.74
Interest & Finance Charges	588.42	465.37
Depreciation	435.84	371.45
Employee Cost	2,551.50	1,803.81
Repair & Maintenance	304.56	216.11
A&G Expenses	244.12	94.97
Other Expenses	19.50	19.50
Gross Expenditure (A)	11,227.34	9,559.73
Less : Interest Capitalized	62.71	62.71
Less : Expenses Capitalized	168.24	168.24
Net Expenditure (B)	10,996.39	9,328.78
Statutory Surplus/ ROE (C)	240.72	217.42
ARR (D) = (B) + (C)	11,237.11	9,546.20
Less Non-Tariff Income	333.20	355.25
(a) Revenue	8,000.69	7,996.49
(c) Revenue from excess consumption/ penalty in April, May 2013	144.55	144.55
Total Income	8,478.44	8,496.29
Revenue Gap	(2,758.67)	(1,049.91)
Average Cost of Supply	5.92	5.04

(To be realised)	(Rs.kWh)		
Average Revenue	(Rs./kWh)	4.34	4.38
Revenue gap	(Rs./kWh)	1.58	0.65
Revenue gap after accounting for additional income from restrictions		1.50	0.58

7.3 Based on the approved ARR & ERC the Commission provisionally arrives at a revenue gap of Rs.1049.91 crore for 2013-14 as against the revenue gap of Rs.2758.67 crore estimated by the Board.

7.4 The Board has proposed tariff revision for meeting the part of the revenue gap projected by them for the year 2013-14. The additional revenue from tariff revision proposed by the Board for the complete year 2013-14 is Rs.1573.54 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 2013-14

8.1 Kerala State Electricity Board has estimated an Aggregate Revenue Requirement (ARR) at Rs. 11237.11 crore and an Expected Revenue from Charges (ERC) at Rs.8478.41 crore for the Financial Year 2013-14, leaving a revenue gap of Rs.2758.67 crore. Accordingly the Board has submitted a petition for the approval of the above ARR & ERC for the Financial Year 2013-14. The Board has also submitted proposals for revision of tariff to partially bridge the gap to the tune of Rs. 1573.54 crore. The proposals submitted by Kerala State Electricity Board have been duly examined and processed by the Commission, in view of the facts and circumstances as well as the relevant rules, regulations and norms. The Commission, after due process, has approved an ARR of Rs.9546.20 crore and an ERC of Rs. 8496.29 crore, and fixed the revenue gap at Rs. 1049.91 crore for the Financial Year 2013-14. The average cost of supply for the Financial Year 2013-14 has been assessed at Rs.5.04 per unit as against the average cost of supply of Rs. 4.64 per unit for the Financial Year 2012-13

Table 8.1
Increase in Revenue and Tariff Proposed by the Board

Sl No	Category	Expected Increase in Revenue (Rs.cr)	Percentage
1	LT- 1(a) Domestic	751.90	29.8%
2	LT- 1(b) offices of political parties	0.10	17.6%
3	LT-II colonies	1.46	9.9%
4	LT-IV Industrial Tariff	104.43	17.7%
5	LT-V Agriculture category	17.12	33.2%
6	LT-VI (A)	31.65	29.1%
7	LT- VI (B)	19.82	9.0%
8	LT-VI (C)	6.92	3.8%
9	LT- VI(D)	0.16	32.7%
10	LT-VII (A)	74.81	7.2%
11	LT-VII (B)	42.33	14.3%
12	LT- VII (C)	9.19	9.8%
13	LT- IX - Public Lighting	12.28	14.5%
14	EHT_1 Tariff	34.89	19.0%
15	EHT-II	91.08	19.1%
16	EHT-III	7.15	19.0%
17	HT-1 Industry	168.83	18.7%

18	HT-II Nondomestic	13.87	18.8%
19	HT-III Agriculture	1.07	20.6%
20	HT-IV commercial	119.31	15.5%
21	Railways	16.69	19.9%
22	Total Except Bulk Supply	1,525.06	
23	Bulk Supply to other Licensees	48.47	
24	Total	1,573.54	

Issues Raised in the Public Hearing

On Domestic Tariff

8.2 Sri Dijo Kappan, Center for Consumer Education pointed out that in 2012 there was substantial increase in the tariff of domestic consumers. He along with several other Consumers pointed out that if KSEB had promptly collected the arrears of electricity charges to the tune of Rs 1677 Crore, there would have been no need for a tariff revision as proposed by KSEB. The energy generated from Hydel Stations which costs around 10 Ps/Unit shall be reserved for domestic consumers. Sri Kappan, Dr R.Dayal, Sri Ramachandran Nair, Trivandrum, Sri Ravi, Chalakkudi Puzha Samrakshna Samithi, as well as several other consumers opined that introduction of non-telescopic tariff for residential consumers will result in substantial increase in the bill amount. Non telescopic tariff can be introduced for consumption above 300 Units/Month. Shri. N.B.Krishna Kurup, Hotel and Restaurants Association, State Committee, Kozhikode stated that the difference in rates for lower ranges and higher ranges for Domestic consumers is very high as per the proposal of KSEB. Nisita Parveen K.S, Kunisseri, Palghat pointed out that the proposal of KSEB increases the bill amount of domestic consumers from 10% to 61% and hence the existing method shall be continued at least up to 300 Units/Month. Hindalco Industries Limited, Kalamassery pointed out that the TOD introduced for domestic consumers consuming above 500 Units /month shall be extended to the next slab also based on the outcome of the already introduced system since it is a permanent solution to reduce peak loading. This will have a serious impact on costly power purchase during peak hours with rates as high as Rs 20/Unit. East Hill Residents Association, Kozhikode stated that curtailing costs, reducing T&D losses and preventing theft of power KSEB will be able to provide consumers with reduction in tariff rates. Muslim Youth League Changanassery pointed out that since the existing charges for electricity are very high another hike in tariff will be unbearable for the people. KSEB Officers Association pointed out that abnormal increase in power purchase cost increases the average cost of supply. But while issuing tariff orders, tariff shock shall be avoided and for that

regulatory asset shall be approved. Low tariff shall be provided for base line consumption up to 40 Units /Month, less than average cost shall also be charged for consumption up to 80 Units. Tariff should be designed in such manner that extravagant consumption by domestic and commercial consumers are properly taxed and appropriate price signals are given for initiating DSM measures. Shri. C.Ramachandran Nair , Secretary, Chaithanya Gardens Residents Association, Peroorkada pointed out that the increase in tariff proposed by KSEB frequently will increase the burden of common man and this unjustifiable petition of KSEB shall not be allowed. Shri.K.Krishna Pillai, President , G.C.Nagar Residents' Welfare Association, Mannammoola, Trivandrum suggested that there should be a Public Audit to decide whether the pay and allowances of KSEB employees are higher when compared with other organizations, whether the existing staff pattern is appropriate, whether contract conditions have resulted in losses in the Board, in which areas pilferage is suspected etc. Shri. K.B.Muraleedharan , Mooppathadam Maveli Lane Residents Association , Aluva opined that the proposal of Board based on false accounts should be rejected by the Commission so that the confidence reposed on the Commission by the consumers would be reinforced. Cominco Binani Zinc Employees ' Association, , Kerala Newsprint Employees Union and Sri K.N.Gopinath, General Convenor Standing Council of Trade Unions, Ernakulam supported KSEB proposal to introduce non- telescopic Tariff for domestic consumers. Secretary, Trichur Corporation also supported the proposal of KSEB. Sri Kovilagam Radhakrishnan Nair pointed out that in Kerala 98% of domestic consumers use invertors. This will defeat the very purpose of load shedding. Hence use of invertors by domestic consumers should be banned.

On HT and EHT Industrial Tariff

- 8.3 Kerala HT & EHT Industrial Electricity Consumers' Association have raised the argument that the Tariff should be fixed based on the voltage wise or category wise cost of supply. It is also pointed out that the crux of the argument relating to this provision is whether the cost of supply means the average cost of supply at distribution end or the category wise cost of supply to different categories of consumers connected at different voltage levels. M/s Binani Zinc Ltd suggested that close monitoring of purchase of power is required and Commission should place an audit mechanism for this purpose especially for short term purchases of power. TOD incentive structure need to be strengthened to provide better incentives for shifting the load. They requested to introduce reforms in power factor incentive and load factor incentive. The Southern India Mills Association ,

Coimbatore pointed out that when the consumption of domestic and agricultural consumers increase the burden should not be passed on to EHT/HT consumers by increasing their tariff. Commission shall direct KSEB to conduct a voltage - wise study to estimate the cost to serve HT and EHT consumers. Considering the fact that textile industry is having high load factor separate tariff shall be fixed for textile mills. Indus Towers, Cochin pointed out that they should be categorized separately and not under commercial tariff. Travancore Cochin Chemicals Ltd, Kochi pointed out that Commission should adopt category wise cost of service determination and fix tariff to recover costs based on this. The proposed tariff for industries for the year 2013-14 is far beyond the actual cost of supply. In order to achieve the target level of specific energy consumption specified for designated consumers, they are forced to make heavy investment. Hence they requested that preferential treatment shall be given to them while fixing the tariff. Trade Unions and Officers Association, Travancore Cochin Chemicals Ltd, Kochi and Cominco Binani Zinc Employees Association, Binanipuram pointed out that the proposed tariff for industries for 2013-14 is far beyond actual cost of supply. GTN Textiles Ltd, Aluva pointed out that due to the tariff revision effective from 01/07/2012 the company is incurring heavy additional expenditure. If any increase in tariff is made as per the tariff petition of KSEB the company will face drastic consequences which is totally unpredictable. Some stakeholders pointed out that the tariff Order 2012-13 is challenged in Hon High Court and Hon Appellate Tribunal for Electricity and hence the orders for 2013-14 may be released only after these petitions are disposed off.

On Tariff Applicable for Railways

- 8.4 Sri B.V.Chandrasekhar, Chief Electrical Distribution Engineer Railways pointed out that they are a public utility service availing power at 110 kV through eight traction sub stations. Railways requested that demand charges for Railway Traction might be fixed at Rs 250/kVA and energy charges be fixed such that cross subsidy percentage is not increased. Net metering facility should be extended to Railways. The recorded MD during feed extensions due to power supply interruptions attributed to KSEB may be ignored for billing purposes subject to total drawal during feed extension is limited to combined contract demand of feed extended as well as extending sub stations

On Commercial Tariff

- 8.5 Sri N.B.Krishna Kurup, Hotel and Restaurant Association, State Committee, Kozhikode stated that the increase in bill amount is high for commercial tariff

with the introduction of TOD and any further increase in electricity tariff will end up in further hurdles for running the hotel industry.

On Tariff for Small Industries

- 8.6 Sri G.Rajan, General Secretary, Wood Industries Welfare Association pointed out that small wood industries which consume less than 150 Units/Moth and having employees less than ten are solely dependent on these units for their livelihood. Power restrictions and increased electricity charges are driving these units to closure. Hence these small units consuming less than 150 units/month shall be exempted from power cut and also tariff increase. Kerala State Rice Flour and Oil Millers Association pointed out that the fixed charge for LT IV Industry consumers for consumers having 10 HP or below is Rs 60/Month. But small rice/flour/oil mills are using not only 10 HP motors but also a roaster machine (0.75 HP) and for rice, flour and oil mills exhaust fans and two fluorescent lamps. Hence the limit shall be raised to 15 HP. All Kerala Small Scale Flour & Rice Mill Owners Association, Alappuzha pointed out that only units consumed shall be charged from consumers and fixed charge shall be eliminated. Kerala Master Printers Association Cochin pointed out that the since the expected over burden due to shortage in rainfall is Rs 2000 Core, the Commission may, under Sec 23 of the Electricity Act 2003 permit KSEB to collect Rs 1/Unit during the crisis period and adjust it in fuel surcharge petition. While doing this the Commission shall withdraw load shedding, power restrictions and power cuts. If the tariff increase is inevitable, the increase for LT IV Industries should be minimum since LT IV Industry tariff is the highest in India. Infopark, Kakkanad, Kochi said that it is evident that investment in IT sector will get reduced since one of the reasons for IT companies for locating units in Kerala is the availability of quality power at reasonable rates. Sri Shaji Sebastian, KSSIA requested that TOD tariff shall be modified providing more incentives for shifting load to off peak hours.

On General Issues

- 8.7 Sri S.P Ravi of Chalakudy Puzha Samrakshana Samithi, suggested that that the mission for KSEB shall be modified from 'providing electricity on demand' to providing electricity for 'genuine needs only'. If supply of electricity for extravaganzas especially for commercial establishment and high end domestic consumers, from grid is stopped, it will result in reduced demand to the tune of at

least 10 to 15 per cent and in a huge reduction in cost for power generation and purchase.

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

Section 1: Re categorization of consumers

Section 2: Revision of Retail Tariff

Section 3: Time of Day Tariff

Section 4: Revision of Bulk Supply Tariff (BST)

Section 5 : Open access Charges

Section 6: Miscellaneous

SECTION.1 RE-CATEGORISATION OF CONSUMERS

8.9 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 tariff for electricity in the state has been structured mainly based on voltage level at which supply is given and the purpose for which electric 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. The Board has submitted proposals for recategorisation 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 do not blend harmoniously with the purpose of the tariff category to which they are presently included. 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.

- 8.10 The nature and scope of activities in the fields of agriculture and industries have diversified, multiplied and expanded using high technology and investments. Therefore re-categorization among various classes of activities in the field of agriculture and industries is found necessary .When electricity was supplied at highly subsidized rates to agriculture, it was used mainly for irrigation (lift irrigation and pumping) and dewatering. The above activities were for cultivation of food crops such as cereals, pulses, vegetables and fruits. There was no regular practice of watering in cash crop plantations. Cultivation practices were also manual. In short agricultural activities using water were for cultivation of food crops and they were more labour intensive and less capital intensive. The Commission is of the view that such pumping, lift irrigation and dewatering activities for cultivation of food crops such as cereals, pulses, vegetables and fruits can continue to enjoy the present highly subsidized rates.
- 8.11 The recent new generation cultivation using advanced technology and more capital investment uses electricity not only for irrigation, but also for creating conducive atmosphere by controlling light, temperature, humidity etc for high and sure yields. Similarly new branches of cultivation have also emerged such as floriculture, tissue culture, sericulture and mushroom farming with commercial objectives. Such new generation high tech agricultural activities do not deserve as much subsidy as is granted to irrigation and dewatering activities in the traditional agricultural practices, though these new generation agricultural activities are also included in the primary sector.
- 8.12 Therefore it is decided to form separate sub categories under LT V-Agriculture and HT III-Agriculture. LT V (A) and HT III (A) sub categories in Agriculture category will be for pumping, lift irrigation and dewatering for cultivation of crops such as cereals, pulses, vegetables and fruits. The highly subsidized supply of electricity under LT V (A) and HT III (A) categories will cover vast majority of the individual farmers as well as the self-help and neighbourhood groups, societies and cooperatives formed by the farmers; who cultivate in their homesteads and open fields, individually or collectively.
- 8.13 The agricultural activities such as tissue culture, floriculture, sericulture, mushroom farming, agricultural and floricultural nurseries are categorized as LT V (B) and HT III (B) respectively depending on the voltage level at which electricity is availed. Being activities in the primary sector, consumers in this category will also be given electricity at subsidized rates; but not with same level of subsidy as in the case of LT V (A) and HT III (A) categories.

- 8.14 Other activities in primary sector are animal husbandry, fishery and allied activities such as livestock farms, livestock farms with dairy farms, poultry farms silk worm breeding units, fish farms including ornamental fish farms, prawn farms ,other aqua farms , rabbit farms , piggery farms and such other activities. In such animal husbandry and fishery practices, electricity is mainly used for temperature control, light control, humidity control, milking, cleaning etc. Being activities in primary sector, the consumers availing power for the above activities will be included in the new sub categories LT V (B) and HT III (B) and given electricity at subsidized rates.
- 8.15 In the field of industry also there have been many diversifications and advancements using modern technology. One very important and recent branch of industry in the State distinct from the traditional production/ manufacture industry (engaged in production of tangible products) is IT and IT Enabled Services. The IT and IT enabled industries which produce intangible goods and services need to be categorized separately. The problems such as raw materials problem, labour problems and marketing problems in traditional production industry and in the IT as well as IT enabled industries are distinctly different. Therefore it is decided to constitute IT and IT enabled industries (except call centers) into separate sub categories as LT IV (B) and HT I (B) respectively in LT and HT levels of power supply.
- 8.16 The groups of consumers presently included in the tariff sub category LT I (b) are not domestic in nature though they are presently placed under the main category of domestic, presumably due to the fact that the tariff structure of LT 1(b) is telescopic in nature as in the case of LT 1(a) domestic consumers. They are non-domestic and non-commercial in nature. So they are shifted and placed under the main category LT VI - Non Domestic Non-commercial category and placed as a separate sub category namely LT VI (E). A few more groups of consumers such as press clubs, e-toilets and public comfort stations have also been included in this category.
- 8.17 KSEB has, in its tariff petition, requested for the following re-categorization of consumer groups. The Commission has considered each of them and the decisions taken thereon, are summarize below.

(i) Cost Accountants, Management consultants:

- 8.18 KSEB has stated that at present, the tariff for similar activities including offices of Advocates, Chartered Accounts, Tax consultants, Architects, Company Secretary/ Consulting Engineers etc. are categorized under LT-VI (B) tariff. Considering the

similar nature of activities of the Cost Accountants, Management Consultants etc, KSEB requested to include the offices of the 'Cost Accountants and Management Consultants' under LT-VI (B) category. Since professionals like Advocates, Chartered Accountants are categorized under LT-VI (B) Cost Accountants and Management Consultants can be included under LT VI (B) As per Section-62(3) "the purpose for which the supply is required" can be a criteria for classification and the purpose of all the consumer groups like Advocates and Chartered Accountants is to provide professional service to public. The activities of 'Cost Accountants and Management Consultants', being similar to those of Advocates and Chartered Accountants, they can also be grouped together under LT VI B.

(ii) Village Offices

8.19 KSEB stated that the offices and institutions under State/Central Government, Corporations, and Boards under State/Central Government/Local bodies etc. are categorized under LT VI (B) Tariff. The tariff for the offices of tax collecting departments under State/Central Government (other than local bodies) is categorized under LT VI (C) Tariff. Generally, village offices are categorized under LT-VI (B) category. However, there are doubts from the field offices on the tariff applicable to village offices. Hence, KSEB requested the Commission to include the village offices also specifically under LT-VI (B). Since Village Offices are important Government Offices at Village level for keeping all basic documents relating to land and for making many services of Government available to the public, the Commission is of the firm view that the Village Offices shall be grouped along with offices under state government and shall be categorized under LT VI (B).

(iii) Treasuries

8.20 KSEB has pointed out that at present; the tariff category for offices of tax collecting departments under State/Central Government (other than local bodies) is categorized under LT VI (C) Tariff. Field offices are raising doubts on the tariff applicable to treasuries. Hence KSEB requested before the Commission to include Treasuries under LT VI(C) category. As per the general principle followed for LT VI (C) Tariff, it is applicable to offices which earn revenue for Government. But the treasuries are only the offices of the state government which collect the revenue of the revenue earning departments. Hence the Commission is of the view that treasuries can be grouped along with offices under state government and can be categorized under LT VI (B).

(iv) E-toilets / Public Comfort Stations

8.21 At present E-Toilets / public comfort stations are not specifically included in any of the existing tariff categories. KSEB has suggested that considering nature of activities, 'E-toilets' may be categorized under LT VI (B). Considering the nature and purpose of these activities, the Commission has decided that this group of consumers can be included in LT I (b), which shall be renamed as VI (E).

(v) Gymnasium:

8.22 At present Gymnasiums with connected load up to 2 KW are included in LT I (b) category and those with connected load above 2 KW are included in LT VII(C) category. Considering the nature of activities, KSEB requested to include the Gymnasium under LT-VII(C) category, irrespective of the connected load. The Commission has duly considered the request. It is of the view that small Gymnasiums with connected load of and below 2000KW are institutions which promote better physical fitness of youngsters in the lower and middle income groups, and therefore such small Gymnasiums deserve encouragement, especially in view of the fact that there is only a few such consumers and their consumption would also not be very substantial. Hence they are to be continued under LT-I (b) category, which is being renamed as LT VI (E)

(vi) Cinema Dubbing and Animation Studios, Centre for Hall marking of Gold under LT and HT category

8.23 KSEB requested before the Commission to include Cinema dubbing and animation studios, Centre for Hall marking of gold etc under HT supply as HT-IV Commercial 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.

(vii) Show Rooms, Display Outlets of Automobiles

8.24 KSEB requested before the Commission to include show rooms, display outlets and service stations of automobiles under HT-IV Commercial category. Since the object of connection is for display and sales these connections are categorized under HT IV Commercial.

(viii) Private Hospitals, Private Clinical Testing Laboratories, Private Consultancy Clinics.

8.25 KSEB has requested the Commission to shift private hospitals, private clinical testing laboratories and private consultancy clinics under LT categories from LT-VI (B) category to LT-VII (A) category. The Appellate Tribunal for Electricity in Appeal No 110 of 2009 - Association of Hospitals Vs MERC, has pointed out as follows

“57 (IV) by the impugned order, the State Commission classified the members of the Appellants into ‘Commercial’ category following a mechanical approach. This has been done only because the Appellants cannot fall under either in the industrial or agricultural or residential category and therefore, the Appellant would automatically fall in the Commercial Category. This is not a proper approach. In case the State commission felt that the Appellants are not falling under any particular existing category, then the State Commission ought to have applied its mind and provided for a new category and given them a competitive tariff having regard to the purpose for which the electricity is used by them.

The State Commission may classify the hospitals, educational institutions and spiritual organizations which are service oriented and put them in a separate category for the purpose of determination of tariff.”

8.26 The issues relating to classification of hospitals and other institutions in the health care sector have been carefully considered by the Commission in the back drop of the socio-economic conditions in the State. There are Government hospitals as well as X-ray units, Clinical laboratories and mortuaries attached to them. There are blood banks run by Indian Medical Association, Government hospitals and Local Self Government Institutions. Similarly there are private hospitals, which are registered under Cultural, Scientific and Charitable Societies Act which are exempted from payment of Income Tax, in view of their charitable activities. The consideration given to such institutions for health care in Government, co-operative and charitable service sector, which render invaluable services to human beings in general and to the poor sections of society in particular cannot be given to other private institutions in the health care sector which are run by private individuals or companies, mainly to cater to the needs of upper classes of society with sufficient financial resources for ensuring better comforts and conveniences along with medical care. Though private hospitals, private x-ray units, private clinical laboratories, private blood banks, private scanning centres and such other institutions engaged in health care business are being run with an element of profit

motive also, the Commission is of the considered view that grouping such institutions under commercial category would not be fair. Therefore the private hospitals, private x-ray units, private clinical laboratories, private blood banks, private scanning centres and such other institutions are included in a new category namely LT VIII General and HT V General. Private computer training centres / institutes and self-financing educational institutions including hostels run by them are also included in the category LT VIII General and HT V General.

(ix) New Consumer Category for Advertising Boards and Hoarding etc.

8.27 KSEB has pointed out that, many consumers have been utilizing electricity for lighting external advertisements, external hoardings on road sides and displays at department stores, malls, multiplexes, theatres, clubs, hotels etc and the prevailing tariff applicable to such institutions is LT-VII (A) commercial. Though the Commission vide the interim order dated 9th October-2012 on OP No. 38/2012 had ordered that, power from the grid shall not be used for display lighting, hoarding, external illumination of buildings and other publicity and sales - promotion purposes, such consumers have been indulging in extravagant use of electricity for such opulent and decorative activities. Legally, KSEB could not avoid power connection to such consumers. Hence, KSEB proposes higher tariff compared to LT-VII (A) for the electricity used for 'display lighting, hoarding, external illumination of buildings, publicity and sales - promotion purposes and for such other opulent and decorative activities'. As a measure to contain extravagant consumption for opulent and decorative activities like display lighting, advertising boards, hoardings and such connections are to be charged at rates nearer to short run marginal cost, above that of Commercial Tariff. Hence they are to be categorized under a separate category. The Commission after due consideration of the above facts decides to form a separate category of consumers namely LT X Display Lighting and Hoardings. But it is made clear that the electricity used for the purpose of displaying the name, address, working time and such other absolutely essential details of any institution in any of the consumer categories (including industrial, commercial, agricultural and non-domestic) will not come under the new category of LT X Display Lightings and Hoardings and for such essential and unavoidable display boards, the consumers will be permitted to use electricity at the same tariff rate applicable to the category to which such consumers belong.

8.28 In addition to the above, during the course of public hearings and through written responses, many consumers requested for re categorization. Sri. E.M. Najeeb, Chamber of Commerce, Trivandrum expressed his view that private hospitals and

such other institutions engaged in health care business should not be included in commercial category. In this regard the Commission has taken a decision which can be seen in paragraph 8.26. S.Raghuchandran Nair of CREDAI has pointed out that the construction connections are now given under LT III Temporary connections with high rates. They wanted construction connections to be given under industrial category or any other appropriate category. They pointed out they are using electricity at site mainly for operating machines like tower cranes, RMP Plant and Mixer Machines, Bar bending and cutting machines, hoist, vibrators, hollow brick making machines and tile cutting machines. Using these machines they are converting raw materials into usable industrial products used for construction of buildings. They have requested to categorize construction activities under industrial tariff for both LT and HT. The Commission, after due consideration of all such arguments, finds that such large scale construction works at the project sites do not have the essential ingredients of an industrial unit. The activities related to such large scale construction works would only be for comparatively shorter duration and hence only temporary in nature. The purposes of such construction works are more commercial in nature with no similarity to those of industrial units. Commission has therefore decided that all connections for construction purposes shall be under LT VII (A) Commercial or HT IV Commercial depending on the voltage level at which power is availed by the consumer.

8.29 Many consumers during the public hearings and through written comments requested for a separate tariff assigned to them as their operations do not fit in any of the existing categories in the tariff order. Shri. SBK Menon , Kottaram Flats requested that the common facilities of multi-storeyed apartments may be classified under separate category and that the allowable quota may be raised to one related to their normal consumption. MES, Naval Base, Kochi, requested for separate lower tariff for defense installations. Indus Towers, Cochin pointed out that they have high load factor, flat load profile, high power factor and highly energy efficient and hence they should be categorized separately under commercial tariff. Hotel and Restaurant Association requested that they may be re-categorized from commercial to an essential service area of hospitality industry. Dr K. Selvaraju, Secretary General, Southern India Mills Association , Coimbatore has pointed out that textile industry is the only industry consuming power at load factor around 90% where as for other major industries load factor is very low in terms of Maximum Demand. Hence Textile Industries are helping more in DSM (Demand Side Management) of KSEB. Load Factor for other industries are 70-75% for cement industries, 40-45% for steel industries, 60-65% for automobile industries and 70-80% for sugar industries. Hence a separate tariff was requested considering the load factor and

consumption pattern. Commission is of the considered opinion that these groups are now categorized under appropriate groups and hence there is no need for re categorization at present and hence their requests cannot be granted.

8.30 During the public hearings, large number of consumers who are engaged in ornamental fish farming attended and expressed their grievances against the present categorization of ornamental fish farming including breeding under commercial tariff. Various associations of ornamental fish farmers such as Ornamental Fish Farmers Association and Kerala Aqua Venture International Ltd as well as Marine Products Export Development Authority (MPDEA) presented the case for ornamental fish farmers. Large number of poor persons including ladies were also present during the public hearing to submit their grievances directly before the Commission. The sum and substance of the submissions made by them are:

- (i) Ornamental fish farming is not a commercial activity as misunderstood by the authorities of the Board.
- (ii) This is a very small scale activity promoted by Local Self Government institution and kudumbasree for enabling the poor persons, especially women in rural areas, to earn livelihood for their subsistence
- (iii) The activities involved in ornamental fish farming are growing ornamental fish in small tanks or ponds in the premises of their houses.
- (iv) Electricity is required mainly for lighting the ponds and tanks.
- (v) The quantum of electricity used by this group of consumers is only very small since such consumers all over the State are only around thousand and the rate of consumption is minimum.
- (vi) Government of Kerala in Fisheries Department had already taken up the matter with KSEB and requested to include ornamental fish farmers in the consumer category for agriculture.
- (vii) Ornamental fish farming is also an activity under the broad category of aquaculture and therefore ornamental fish farming should also be brought under agriculture category along with aquaculture.
- (viii) Rearing fish in water is aquaculture activity irrespective of whether the fish is edible or ornamental.
- (ix) Many fish species like carp, gourami, barb, nyloca, zennisoni etc are grown for edible and ornamental process.

8.31 Marine Products Export Development Authority (MPEDA) pointed out that ornamental fish sector is engaged in large number of employment generation in

rural and semi urban areas as well as for improving the livelihood of many families. Most of the ornamental fish farmers including many woman beneficiaries are from very poor financial background and high electricity charges are making it difficult for them to run the business. Ornamental Fish Culture is a major activity under Aquaculture and the farming is similar to other aquaculture activities. The difference is that in ornamental fish farming breeding and rearing activities of fish are carried out in cement tanks, glass tanks and earthen ponds. Hence the request of Ornamental Fish Farmers Association to bring down electricity charges for ornamental fish farming on par with aquaculture may please be considered. The following technical and legal views are also presented to support the claim of ornamental fish farmers.

8.32 The definition of aquaculture as given by Food and Agricultural Organization (FAO) is as follows:

“Aquaculture is the farming of aquatic organisms: fish, molluscs, crustaceans, aquatic plants, crocodiles, alligators, turtles, and amphibians.”

Hence ornamental fish and edible fish cannot be differentiated and all fish species shall be treated the same for the purpose of categorization

8.33 Further Section 62 (3) of the Electricity Act, 2003 permits differentiation between classes of consumers on aspects mentioned in the said Section which include power factor, load factor, voltage, total consumption, nature and purpose for which the electricity is required etc. As per Sec 62 (3) quoted above of one of the factors to be considered while determining the tariff is the purpose for which the supply is required. The purpose of supply is the object for which supply is taken, which may be for domestic use, agriculture, industry, education, research, public transportation, medical treatment, public water supply, public lighting, etc. Consumer categories could be only on the basis of purpose of supply. Webster’s New International Dictionary defines the word ‘purpose’ as that which one sets before him as an object to be attained; the end or aim has to be kept in view of any plan, measure, exertion or operation. Therefore, it is beyond doubt that ‘purpose’ has to be determined with regard to the ultimate object of the consumer for the use of electricity. While determining the purpose for which supply is required by a consumer, it is ultimately the end objective of the user that has to be ascertained. In this case the end objective is rearing fish whether it is consumable fish or ornamental fish. Hence ornamental fish farming including breeding cannot be differentiated with aqua farming and has to be treated as agriculture consumer. In

view of the above facts and circumstances, the Commission has decided to categorize ornamental fish farming including breeding under agricultural tariff LT V (B) and HT III (B) in LT and HT respectively.

- 8.34 James Jose, Vice President, Indian Association of Hall Marking Centers, Cochin pointed out that they have around 40 such industrial Units and require power in the range of 20 kW to 25 kW, for various machinery like furnaces, blowers, heaters, laser machines etc. These units mostly work during day time and do not draw power during peak hours /evenings. They are engaged in manufacturing process ie production of laser cut gold and silver articles such as coins, medals, lockets etc, melting of Gold, silver and their alloys, laser engraving on various articles like PVC. Wood, metals etc. In addition to manufacturing they are also engaged in assaying (testing) and hallmarking of Gold and Silver jewellery articles. Some of these units are at present under LT IV Industrial Tariff. But Anti Power Theft Squads (APTS) of KSEB is issuing notice to such units and bringing them under LT VII A Commercial tariff and imposing penalty for the power used so far in the LT IV category. They have requested to include them under LT IV Industrial Tariff. Considering the fact that the operations of such consumers are commercial in nature, the Commission has decided to categorize them under LT VII Commercial and HT IV Commercial under LT and HT respectively.

SECTION 2: REVISION OF RETAIL TARIFF

- 8.35 The Kerala HT & EHT Industrial Electricity Consumers' Association as well as several HT /EHT consumers had pleaded that the Tariff revision may be postponed until the verdict of Hon: APTEL on their appeal petition on the tariff revision in FY 2012-13 is issued. They have also pointed out that since the proceedings for converting KSEB as a company is in final stage, the tariff revision may be postponed till it is completed. The Commission considered these objections and found that tariff revision for each financial year is dependent on the ARR &ERC for that financial year and the resultant revenue gap, if any, of the utility should be bridged by appropriate and timely tariff revisions and that the reorganization of the utility into a company will not materially alter the realities. More over the reorganization of KSEB as company had been pending before the Government for the last several years and hence the approval of ARR & ERC and tariff revision cannot be kept pending until such re organization is completed. On the issue of appeal pending before the Hon: APTEL it would suffice to place on record that the

Commission would take appropriate follow up action, if necessary, based on the orders of the Hon'ble APTEL.

8.36 Some stakeholders such as the Kerala HT & EHT Industrial Electricity Consumers' Association and a few EHT consumers have raised the argument that the tariff should be fixed based on the voltage wise or category wise cost of supply. They have pointed out that the Section 61(g) of the Electricity Act 2003 clearly specifies that the tariff charged should reflect the cost of supply and that the cross subsidies should be progressively reduced within a period to be specified by the Commission. It is also pointed out that the crux of the argument relating to this provision is whether the cost of supply means the average cost of supply at distribution end or the category wise cost of supply to different categories of consumers connected at different voltage levels.

8.37 The Commission had discussed these issues in detail in the tariff order dated 25th July 2012 and therefore repetition of the same in this order is not found necessary. After examining the various aspects of the issue and various orders of the Hon: APTEL, the Commission had come to the following conclusions in the order cited:

As pointed out earlier in the various judgments of Hon. APTEL even though the ultimate aim is to go by the concept of cost plus basis of supply of electricity to various categories and classes of consumers, 'this cannot be achieved immediately in one go'. This can be accomplished 'stage by stage over a period of time by reducing the cross subsidies etc'. The Commission can endeavour only 'for a gradual transition from the tariff loaded with cross subsidies to a tariff reflective of cost of supply to various class and categories of consumers'. The tariff cannot 'be the mirror image of the cost of supply of electricity to a category of consumer' under the existing circumstances. Therefore the Commission believes that, 'for the present, the approach adopted by the Commission in determining the average cost of supply will not be faulted'. (Quotes from APTEL orders).

8.38 The Commission wishes to reiterate the above position on the present tariff formulation. More over the Commission had approved and published the Principles for Determination of Roadmap for Cross-subsidy Reduction for Distribution Licensees Regulations, 2012 on 20th November 2012 . As per the above Regulation,

"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

8.39 The above Regulations specify the principles of cross subsidy reductions as given below:

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.

8.40 Hence the Commission shall take the average cost of supply (ACoS) as the basis for tariff formulation and assessing cross subsidy levels. The Commission puts on record that the current tariff revision is the second comprehensive tariff revision after the commencement of the regulatory regime in the State. Hence the Commission will strive to ensure that existing cross subsidy range will not be enhanced. In other words, the existing level of cross subsidy provided by the subsidizing consumers will not 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. The Commission has to ensure that when tariff of subsidized categories such as domestic, agriculture, public lighting etc are increased, tariff shock will 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.

8.41 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. 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.

8.42 The contention made by many consumers during public hearings that, there would be no revenue gap if KSEB has taken proper steps to recover the outstanding arrears, is not correct. KSEB 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 KSEB 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 KSEB 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 arrears cannot again be reckoned as income when the same is collected during subsequent years. Therefore, the Commission does also fix the tariff based on the accounts compiled on accrual basis. 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 KSEB which have already been considered as income when the bills were raised by KSEB cannot be treated as income again on realization. It is true that the non-realization of old dues leaves the utility cash starved having no option left but to resort to short term borrowing or withholding payment of dues resulting in creation of liabilities. Hence realization of arrears would definitely improve the financial position of the KSEB, but in no way it can be treated as income.

8.43 Railways requested that the demand charges for Railways shall be kept at Rs. 250 per kVA /Month and cross subsidy for energy charges shall not be increased. The Commission recognizes the role of Railways as a vital infrastructure for economic development of the State. As per the mandate of Electricity Act under Section 61 (b) and (g) the electricity business has to be conducted on commercial principle and the cost of supply of electricity has to be recovered through tariff. The Commission has taken several steps for rationalizing the tariff so that it would reflect the average cost of supply. Therefore, a separate reduced tariff for Railways at EHT level will not be in tune with the tariff principle. The Commission would like to make it clear that due to the very nature of traction load, normally Railway traction sub stations draw unbalanced load (110 KV, 2 phase) and generate higher harmonics in the system. Truly speaking, the traction tariff should have been higher than that of any balanced

EHT, 3 phase load. But, the Commission has not done so and has also exempted Railway traction from TOD tariff, because the Commission observes that traction supply caters to a very important activity like Rail movement. It has very limited scope of load management. Therefore Commission directs that KSEB shall not resort to any load restriction for Railway traction without prior permission of the Commission.

8.44 After carefully considering the proposals put forward by the KSEB , written and oral representations of the objectors, KSEB's response to the objections of the stake holders, and 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 following tariffs

REVISION OF RETAIL TARIFF:

LT – I (a) Domestic

8.45 The KSEB has submitted proposal for rationalization of domestic tariff. The existing tariff and the tariff proposed by KSEB for domestic category are given below:

**Table 8.2
Proposed Tariff for Domestic Category**

Monthly consumption block(Units)	Existing Slab rate			Proposed rate		
	Monthly consumption slab	(Rs/kWh)	Remarks	Monthly consumption	(Rs/kWh)	Remarks
0-40	0-40 units	1.50	Telescopic	Upto 40 units	1.65	Non Telescopic
41-80	41-80 units	2.40		Upto 80 units	2.30	
81-120	81-120 units	2.90		Up to 120 units	2.70	
121-150	121-150 units	3.60		Upto 150 units	3.40	
151-200	151-200 units	4.80		Upto 200 units	4.00	
201-300	201-300 units	6.00		Up to 300 units	5.00	
301-500	301-500 units	7.50		Above 300		
Above 500	Above 500 units	6.50	Non telescopic	units	6.75	

8.46 The main feature of the above proposal is introduction of non -telescopic tariff for all the slabs for the domestic category. The fixed charges for single phase consumers are proposed to be revised based on the consumption. For the single phase consumers with consumption above 120 units/month, the existing fixed charge at the rate of Rs. 20/month is proposed to be enhanced to Rs.25/month. For three phase consumers the fixed charge is proposed to be increased from Rs.60/month to Rs.75/month. The average realization of domestic category at present is Rs 2.78

per unit compared to the average cost of supply (ACoS) of Rs 4.64 per unit. KSEB has thus proposed to increase the average tariff to Rs.3.58 per unit on implementation of its proposal.

8.47 The Commission has considered the proposal of the Board in detail with special reference to the non- telescopic tariff proposed by KSEB for all the slabs. In the case of existing telescopic tariff, every domestic consumer will get first 40 units of electricity consumed per month at the rate of Rs. 1.50; the next 40 units consumed per month in 41 to 80 units slab at the rate of Rs. 2.40 and the next 40 units consumed per month in the next 81 to 120 units slab at the rate of Rs. 2.90 and so on. In the non-telescopic tariff proposed by KSEB, only those consumers whose monthly consumption is of and below 40 units will get power at the rate of Rs. 1.65 and the consumers with monthly consumption of and above 41 units but below 80 units will have to pay electricity charges at the rate of Rs. 2.30 for all the units consumed. Similarly the consumers whose monthly consumption is of and above 81 units, but below 120 units will have to pay electricity charges at the rate of Rs. 2.70 for the entire units consumed. This principle will apply to higher slabs as well. On examination of the proposed non-telescopic tariff structure, the Commission found that when the consumer enters the next slab level by consuming one unit more than the maximum of the existing slab, the total bill amount will increase by about 51% to 61%. This would cause tariff shock to such consumers. Hence the Commission cannot accept the proposal of the Board in toto.

8.48 The Board has proposed enhancement in the fixed charges and demand charges depending upon the category of consumers. The Commission does not approve the proposal for enhancement in the fixed charges and in demand charges. The Commission decides that no changes shall be made in the fixed charges of any consumers during the financial year 2013-14.

8.49 The Commission does not propose to enhance the present tariff applicable to the consumers whose monthly consumption is in the lowest slab of and below 40 units, considering the fact that the consumers in this slab would necessarily be in the mere subsistence level. Therefore the Commission decides to retain the tariff of the lowest slab of and below 40 units per month at the rate of 150 paise per unit without any change. This decision is taken by the Commission considering the very poor socio economic conditions of the consumers whose average daily consumption would be below 1.5 units. As per data available in the petition submitted by KSEB, there are about 25.46 lakh consumers in this category who would enjoy the benefit

of the highly subsidized rate of Rs. 1.50 per unit. This highly subsidized rate will not be available to other consumer groups.

8.50 The Commission proposes to retain the telescopic tariff system for the consumers whose monthly consumption falls within the consumption range from 41 units to 300 units. The consumption from 41 units to 300 units is divided into five slabs namely; 0-80 units, 81-120 units, 121-150 units, 151-200 units and 201-300 units. The tariff of electricity for various slabs are shown in the table of approved tariff. Electricity charges of the consumers in this consumption range would be calculated in accordance with the telescopic tariff principle as explained above. The consumers consuming more than 40 units of energy per month but of and below 80 units will have to pay electricity charges at the revised rate applicable for that slab for the entire units consumed by him upto 80 units. For the consumption above 80 units upto 300 units the electricity charges will be calculated as per the existing telescopic slab structure at the rate approved for the respective slabs.

8.51 The telescopic tariff system will not available for those consumers whose monthly consumption is more than 300 units. Such consumers will have to pay electricity charges for their entire consumption at the revised rates shown against each slab under non-telescopic system. The rates under this non-telescopic tariff system is determined with a view to dis-incentivizing avoidable and consumptive use of electricity.

8.52 In other words the domestic tariff will consist of three groups namely:

- (i) Consumers with monthly consumption of and below 40 units for whom the existing rate of 150 paise per unit will be continued with exemption from payment of fixed charges.
- (ii) Consumers with monthly consumption of and above 41 units but of and below 300 units for whom the telescopic tariff structure will be continued with revised energy charges.
- (iii) Consumers with monthly consumption of and above 301 units who will come under non-telescopic tariff system with the revised rates shown in the table and the electricity charges will be payable for the whole of their consumption at the rates applicable to the non-telescopic slabs in which their consumption would fall. Subsidy will not be available to these consumers.

8.53 The average realization from domestic consumers would be around Rs.3.00 per unit compared to the average cost of supply (ACOS) of Rs. 5.04 per unit. The Commission anticipates that the average realization from domestic consumers will improve from 59% to 61 % due to this revision, thus reducing the burden of cross subsidy on other sections of consumers.

8.54 In view of the facts and circumstances explained above, the Commission approves the following tariff for the domestic consumers.

Table 8.3
Tariff for LT I (A) Domestic Category Approved by the Commission

Fixed charges	Single Phase: Rs.20 per consumer per month Three phase : Rs.60 per consumer per month	
Energy charges		
Slabs	Rates	Remarks
0-40 units	150 paise per unit	Telescopic
0-80 units	220 paise per unit	
81-120 units	300 paise per unit	
121-150 units	380 paise per unit	
151-200 units	530 paise per unit	
201-300 units	650 paise per unit	
0 -350 units	500 paise per unit	Non-telescopic
0-400 units	550 paise per unit	
0-500 units	600 paise per unit	
Above 500 units	700 paise per unit	

Note: Fixed charges shall not be applicable for single phase consumers having average consumption of 40 units or below per month for the previous six months.

LT – 1(b) – Tariff Applicable to Sports and Arts clubs, Gymnasiums, Libraries, etc.

8.55 For the reasons explained in Para 8.16 in Section I, the consumers under this category is placed under a new sub category namely LT VI (E) under LT VI - Non Domestic. Revised tariff is approved for the sub category LT VI (E) separately.

LT-II Colonies

8.56 The existing LT II Tariff is applicable to supply of power to colonies of major industries, Universities etc mainly for domestic consumption. The Board has proposed an increase in the tariff to the tune of 9.85% for LT II category. Commission, noting that, the rates applied to this category is already high and near the highest rates for domestic consumers, has decided to retain the existing rates

without any change and thus approves the existing rates for 2013-14. The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are shown below:

Table 8.4
Existing, Proposed and Approved Tariff for LT II Colonies

Particulars	Existing tariff	Proposed Tariff	Approved Tariff
Fixed charge (Rs/ connection)	2200	2400	2200
Energy Charge (paise per unit)	650	715	650

Therefore no additional revenue is expected from this category.

LT-III Temporary Services Including Temporary Connections and Extensions

8.57 The existing LT III and LT VIII categories of tariff are for similar purposes and hence it has been decided to bring them together under the same category and rename them as sub category LT III (A) and LT III (B).

LT III (A) Temporary Connections :

8.58 The electricity charges for temporary connections are at present realized at the rate of Rs. 13.50 per unit or at the daily minimum rate of Rs. 130 /kW or part thereof of the connected load whichever is higher. The Commission approves the increase proposed by the Board subject to the change that the energy charges will be at the rate of Rs. 14.00 per unit instead of Rs. 15.00 per unit proposed by KSEB. The existing tariff, the tariff proposed by KSEB and the tariff approved by the Commission for this category are given below:

Table 8.5
Existing, Proposed and Approved Tariff for Temporary connections

Particulars	Existing rate	Proposed rate	Approved rate
Energy charge	Rs 13.50 per unit	Rs 15.00 per unit	Rs 14.00 per unit
	OR	OR	OR
Daily minimum Rs/kW or part thereof connected load whichever is higher	Rs 130/kW	Rs 140/kW	Rs 140/kW

LT III (B) : Temporary Extensions :

8.59 The tariff applicable to temporary extensions from consumers premises is Rs 65/- per KW or part there of, of the connected load.

LT-IV Industrial

8.60 LT IV tariff is applicable to low tension industrial category. There are about 13 .94 lakh consumers in this category with an annual sales of about 1171.39 MU. The average realisation from this category at the existing tariff is 114% of the ACOS The Board has proposed about 18% increase in tariff for LT IV category by increasing fixed charge by Rs.5/kW of connected load and energy charge by Rs. 0.75 per unit, for the consumers with connected load of and below 10HP. The Board has proposed an increase in fixed charges at the rate of Rs. 10.00 per KW for other LT IV consumers. The Board has also requested to increase the demand charge from Rs. 100.00/kVA per month to Rs. 125.00/kVA month for the consumers under Maximum Demand Based Tariff (ToD) system.

Table 8.67
Existing and Proposed Tariff for LT IV Industrial

Particulars	Existing rate	Proposed rate
Fixed charge		
(a) Connected load or below 10HP (Rs/ consumer)	60	75
(b) Connected load above 10 HP (Rs/kW)		70
Energy Charge (paise/kWh)	425	500

8.61 For the reasons explained in para 8.15 in Section I, the LT IV Industrial category has been divided into LT IV (A) Industrial and LT IV (B) IT and IT Enabled Services. Separate tariffs have been approved for the above sub categories as shown hereunder.

LT IV (A) Industry:

8.62 Tariff applicable for general purpose industrial loads (single or three phase) viz., 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, , power laundries, screen printing of glass ware or ceramic, printing presses, 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, processing of Milk by pasteurization, storage & packing, Granite slabs manufacturing units.

8.63 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are given below:

**Table 8.7
Approved Tariff for LT IV (A) Industrial**

Particulars	Approved rate
Fixed charge	
(a) Connected load 8kW or below (Rs/ consumer)	60
(b) Connected load above 8kW (Rs/kW)	60
Energy Charge (Paise/kWh)	470

*Note: 1. Consumers having connected load 8kW or below fixed charges shall be Rs.60 per consumer per month.
2. The demand charges applicable to maximum demand based tariff shall be Rs.100/kVA per month.*

LT IV (B) IT and IT Enabled Services:-

8.64 *Tariff applicable for IT and IT enabled services including Akshaya-e-centres, computer consultancy service units with SSI registration engaged in software services and data processing activities and desktop publishing, software units but excluding call centres.*

8.65 The tariff approved by the Commission for IT and IT Enabled Services is given below:

**Table 8.8
Approved Tariff for LT IV (B) IT and IT Enabled Services**

Particulars	Approved Tariff
Fixed charge (Rs/ kW per month)	60
Energy Charge (paise per unit)	510

*Note: 1. Consumers having connected load 8KW or below fixed charges shall be Rs.60 per consumer per month.
2. The demand charges applicable to maximum demand based tariff shall be Rs.100/kVA per month.*

LT V Agricultural

8.66 The Board has proposed about 33% increase in tariff for the agricultural category. According to the Board, considering the present average cost of supply, the existing tariff for the agricultural category is highly subsidized. KSEB has proposed to revise the fixed charges from Rs 6.00/ KW/ month to Rs 8/kW/month and the energy charge from Rs 1.50/unit to Rs 2.00 per unit. The existing and proposed tariff is given below:

Table 8.9
Existing and Proposed Tariff for LT Agriculture

Particulars	Existing tariff	Proposed Tariff
Fixed charge (Rs/ kW per month)	6	8
Energy Charge (paise per unit)	150	200

8.67 For reasons explained in para 8.12 of Section I of this order it is proposed to form separate sub categories under LT V-Agriculture and HT III-Agriculture. LT V (A) and HT III (A) Sub Categories are for pumping, lift irrigation and dewatering for cultivation of crops such as cereals, pulses, vegetables and fruits. The agricultural activities such as tissue culture, floriculture, sericulture, mushroom farming, agricultural and floricultural nurseries are categorized as LT V (B) and HT III (B) respectively depending on the voltage level at which electricity is availed. Other activities in primary sector are animal husbandry, fishery and allied activities such as livestock farms, livestock farms with dairy farms, poultry farms, silk worm breeding units, fish farms including ornamental fish farms, prawn farms ,other aqua farms , rabbit farms , piggery farms and such other activities. In such animal husbandry and fishery practices, electricity is mainly used for temperature control, light control, humidity control, milking, cleaning etc. Being activities in primary sector, consumers in these categories will also be given electricity at subsidized rates under LT V (B) and HT III (B).

8.68 The Commission does not propose to increase tariff to LT V (A) Agriculture during this year considering the socio-economic factors and the adverse climatic conditions caused due to the poor rainfall during 2012. The tariff approved for LT V (A) Agriculture shall be as follows

LT V (A) Agriculture :

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

Table 8.10
Approved Tariff for LT V(A) Agriculture

Particulars	Approved Tariff
Fixed charge (Rs/ kW per month)	6
Energy Charge (paise per unit)	150

LT V (B) Agriculture

8.70 *Tariff applicable to agricultural purposes such as poultry farms, silk worm breeding units, livestock farms , combination of livestock and dairy farms, Aquaculture, floriculture, tissue culture, sericulture and mushroom culture livestock farms, livestock farms with dairy farms, , fish farms including ornamental fish farms, prawn farms ,other aqua farms , rabbit farms , piggery farms ,agricultural and floricultural nurseries etc*

8.71 For this new sub category the energy charge is fixed at Rs 2.00 /Unit and the fixed charge is same as that for LT V (A). The anticipated additional revenue due to this increase is Rs.2.97 Crore. The proposal of KSEB to introduce pre paid metering to agriculture consumers is not practical at present and hence declined for the time being:

Table 8.11
Approved Tariff for LT V (B) Agriculture

Particulars	Approved Tariff
Fixed charge (Rs/ kW per month)	6
Energy Charge (paise per unit)	200

LT-VI Non Domestic Tariff

8.72 There are four sub categories under the LT VI Non-domestic category at present namely LT VI (A), LT VI (B), LT VI (C) and LT VI (D). One more category namely LT VI (E) is constituted in this tariff order. Even though the cost coverage is already high, in respect of sub categories LT VI (A), LT VI (B) and LT VI (C), the

Commission considers that minimal increase in these categories is essential. The proposal of the Board to increase fixed charges for this category is declined.

LT-VI (A).

8.73 Tariff applicable to premises of religious worship, institutions imparting religious education, government or aided private educational institutions, libraries and reading rooms of educational institutions, convents, Government Hospitals, X-Ray units, laboratories and mortuaries attached to government hospitals, Blood banks of IMA/Govt. Hospitals/Local Self Governments, Private hospitals registered under Cultural, Scientific and Charitable Societies Act and exempted from payment of income tax.

8.74 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

Table 8.12
Existing, Proposed and Approved Tariff for LT VI (A)

Particulars	Existing tariff	Proposed Tariff	Approved Tariff
Fixed charge (Rs/ kW per month)	50	70	50
Energy Charge (paise per unit)			
Upto 500 units	480	600	510
Above 500 units	550	700	590

LT-VI (B)

8.75 The tariff applicable to offices and institutions under State/Central Government, Corporations, Boards under State/Central Government/ Local bodies, Kerala Water Authority, KSRTC, KSWTC, hostels of educational institutions affiliated to Universities or under the control of the Director of Collegiate Education, Director of Technical Education, Director of Medical education, Director of Public Instruction or such other offices of government or run by the government or state social welfare board, hostels run by institutions that are registered under cultural, scientific and charitable societies Act and exempted from payment of income tax, KHRWS pay wards and institutions of KHRWS, travelers bungalows, guest/rest houses under government, type writing institutes, offices of advocates / chartered accountants/ Company Secretary/ Consulting Engineers / tax consultants /architects / social organizations, museum/zoo, offices of political parties not approved by the Election Commission of India and collection centers of 'FRIENDS' single window service

centers under department of Information Technology, Police Clubs , and mobile camerat traffic signal points.

8.76 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

**Table 8.13
Existing, Proposed and Approved Tariff for LT VI (B)**

Particulars	Existing tariff	Proposed Tariff	Approved tariff
Fixed charge (Rs/ kW per month)	70	70	70
Energy Charge (paise per unit)			
Upto 500 units	550	600	585
Above 500 units	650	700	700

LT- VI (C)

8.77 Tariff applicable to offices or institutions under Income tax/Central Excise, Customs, offices under motor vehicles department/ sales tax department/ excise department, offices of all other tax/revenue collecting departments under state/central government (other than local bodies), department of posts, light houses, pawn brokers, banks, ATM Counters, railways (including railway stations) offices of Airport Authority of India (except airport) Office of Sub-Registrars, Micro Financing Institutions and any other LT categories not included in this schedule.

8.78 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

**Table 8.14
Existing, Proposed and Approved Tariff for LT VI (C)**

Particulars	Existing tariff	Proposed Tariff	Approved tariff
Fixed charge (Rs/ kW per month)	180	200	180
Energy Charge (paise per unit)			
Upto 500 units	700	700	700
Above 500 units	850	850	850

LT- VI (D)

8.79 Tariff is Applicable to Orphanages, schools and hostels of mentally retarded students, deaf, dumb, blind/physically handicapped persons, oldage homes,

Cheshire homes, SOS Children's villages, polio homes, cancer and palliative care centres, HIV rehabilitation centres and other similar institutions recognized by the Government.

8.80 The Board has proposed a nominal increase in tariff for this category also. Consumption of this group is very small and by nature, it deserves special treatment. The Commission does not intend to make any revision to the existing tariff of this category and retains the same for 2013-14.

8.81 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

**Table 8.15
Existing, Proposed and Approved Tariff for LT VI (D)**

Particulars	Existing tariff	Proposed Tariff	Approved tariff
Fixed charge	Nil	Nil	Nil
Energy Charge (paise per unit)	150	200	150

LT VI (E)

8.82 Tariff applicable to sports / arts clubs, sailing / swimming activities and Gymnasiums (with connected load not exceeding 2000 W) as well as for Libraries and reading rooms other than those of educational institutions, press clubs, Offices of political parties approved by Election Commission of India, e- toilets, public comfort stations etc

8.83 The Board has proposed to increase the fixed charges for the category LT 1 (b) as shown below

**Table 8.16
Fixed Charge Proposed for LT-1 (b) Category**

Particulars	Existing tariff (Rs /consumer per month)	Proposed tariff (Rs /consumer per month)
Single phase consumers	20	30
Three phase consumers	60	90

8.84 The Board has also proposed to reduce the number of slabs applicable to the consumers in the category LT 1(b) from seven to three and to increase the energy charges as shown in the table below and to apply them in non-telescopic system.

**Table 8.17
Energy Charges Proposed for LT-1 (b) Category**

Monthly consumption block	Existing tariff		Proposed rate		
	Monthly consumption	(Paise/kWh)	Monthly consumption	(Paise/kWh)	Remarks
0-40	0-40 units	200	Up to 120 units	350	Non- Telescopic
41-80	41-80 units	310			
81-120	81-120 units	360			
121-150	121-150 units	450	Upto 200 units	450	
151-200	151-200 units	520			
201-300	201-300 units	620	Above 200 units	650	
Above 300	Above 300 units	750			

8.85 The Commission has decided to rename LT 1(b) category as LT VI (E) as explained in paragraph 8.16 of Section I. The Commission does not propose to increase the existing Fixed charges but decides to revise the Energy charges as shown below and to introduce non-telescopic system. The rates of fixed charges and the rates of energy charges proposed by KSEB and the rates of fixed charges and the energy charges approved by the Commission are given below.

**Table 8.18
Proposed and Approved Tariff for LT-VI (E) Category**

Particulars	Proposed tariff (Rs /consumer per month)	Approved tariff (Rs./consumer per month)	
Fixed Charges			
Single phase consumers	30	20	
Three phase consumers	90	60	
Energy Charges			
Monthly consumption slabs	Proposed Rate Paise /kWh	Approved Rates Paise /kWh	Remarks
Up to 120 units	350	330	Non-telescopic
Up to 200 units	450	410	Non-telescopic
Above 200 units	650	600	Non-telescopic

LT VII Commercial:

8.86 There are three sub categories under LT VII Commercial category. The existing cost recovery and cross subsidy level are high for all the three sub categories Hence further increase in tariff can be approved only in relation to the increase in ACoS, so that the cross subsidy levels are not increasing. The summary of revision of tariff as approved by the Commission is given below.

LT VII (A) Commercial:

8.87 Tariff is Applicable for commercial consumers such as commercial premises, hotels and restaurants (Connected load above 1000 kW), Showrooms, Business houses, cinema studios, private hostels/lodges/guest/rest houses, freezing plants, cold storages, milk chilling plants, bakeries (without manufacturing process), audio/video cassette recording/ duplication units, CD recording units, petrol/diesel/LPG/CNG bunks, automobile service stations, all construction works, installations of cellular mobile communications /cable TV networks, Satellite Communications, Offices/exchanges of telecom companies, offices or institutions of AIR, Doordarshan, radio stations, insurance companies, call centers , marble cutting units, and units carrying out filtering and packing and other associated activities using extracted oil brought from outside The tariff proposed by the Board is given below:

8.88 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

Table 8.19
Existing, Proposed and Approved Tariff for LT VII (A) Commercial

Particulars	Existing tariff	Proposed Tariff	Approved Tariff
Fixed charge (Rs/ kW per month)			
Single Phase	60	75	60
Three phase	120	140	120
Energy Charge (paise per unit)			
Upto 100 units per month	545	600	580
Upto 200 units per month	605	650	650
Upto 300 units per month	675	725	720
Upto 500 units per month	730	800	780
Above 500 units per month	850	875	910

LT-VII (B) Commercial

8.89 Tariff is *Applicable for consumers having connected load not exceeding 1000 Watts of shops/ bunks/ hotels and restaurants/ telephone/ fax/ e-mail/ photo copy booths and internet cafes.*

8.90 The maximum monthly consumption permissible under this category as per the existing order is 200 units. If the consumer exceeds the consumption limit of 200 units per month, LT VII (A) tariff is applicable. The Commission proposes to increase this ceiling on monthly consumption to 300 units and so the consumer under this category shall be billed for energy charges under LT VII (A) tariff, if he exceeds the revised monthly consumption ceiling of 300 units. The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

Table 8.20
Existing, Proposed and Approved Tariff for LT VII (B) Commercial

Particulars	Existing tariff	Proposed Tariff	Approved tariff	
Fixed charge (Rs/ kW per	40	50		40
Energy Charge (paise per unit)				
0 to 100 units	400	470	0 to 100 units	420
above 100 units upto 200 units	600	660	0 to 200 units	520
			0 to 300 units	620

Note: If the consumption exceeds 300 units, the energy charges at LT VII (A) rates shall be applied.

LT-VII (C)

8.91 Tariff is applicable to Cinema theatre, circus, sports/arts clubs, gymnasiums having connected load exceeding 2000W etc.

8.92 Even though the existing cost coverage is around 173% for the category the commission decides to provide moderate increase in tariff in proportion to the increase in ACoS so that cross subsidy level is not increased.

8.93 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

Table 8.21
Existing, Proposed and Approved Tariff for LT VII (C) Commercial

Particulars	Existing tariff	Proposed Tariff	Approved Tariff
Fixed charge (Rs/ kW per month)	90	100	90
Energy Charge (paise per unit)			
Upto 1000 units	500	575	540
Above 1000 units	650	710	700

LT VIII General :

8.94 Private hospitals , private clinical laboratories, private X-ray units, private mortuaries, private blood banks, private scanning centres, computer training institutes, Self- financing educational institutions (including hostels)

This is a new category, carved out of LT VII A Commercial and LT VI B non-domestic as explained in paragraph 8.26 of Section I. Hence the Commission decides that the tariff of such consumers should be fixed in between these categories. The approved tariff is given below:

Table 8.22
Approved Tariff for LT VIII General

Particulars	Approved Tariff
Fixed charge (Rs/ kW per month)	
Single Phase	60
Three phase	120
Energy Charge (paise per unit)	
0 to 100 units per month	550
0 to 200 units per month	600
0 to 300 units per month	650
0 to 500 units per month	750
Above 500 units per month	850

LT IX Public Lighting

8.95 Tariff is applicable to street lights managed by local self-governments in the State. The Board has composite tariff for the unmetered streetlights and also has tariff for the metered supply. The Board has proposed to increase the metered supply tariff to 315 paise from 275 paise. In the case of composite tariff also 25% increase is proposed. Even though Tariff revision proposals were given good publicity, the

Commission had not received any response from Local Self Government institutions on the proposals of KSEB for revision of Public lighting tariff. Considering the increase in the average cost of supply Commission decides that an increase of 10% for metered supply and 15% for composite tariff shall be approved

A. Proposal for Composite Tariff

For Unmetered Supply the proposal of the Board is as follows:

Table 8.23
Existing and Proposed Tariff for Unmetered Street lighting

Type of Lamp	Watts	Existing Tariff				Proposed tariff		
		Effective Energy rate (paise per unit)	Rs/Lamp/month			Rs/Lamp/month		
			4 hours	6 hours	12 hours	4 hours	6 hours	12 hours
Ordinary	40	300	14	22	43	18	28	54
Ordinary	60	300	22	32	65	28	40	81
Ordinary	100	300	36	54	108	45	68	135
Fluorescent tube	40	300	14	22	43	18	28	54
Fluorescent tube	80	300	29	43	86	36	54	108
Flood Light	1000	300	360	540	1080	450	675	1350
Mercury Vapour Lamp	80	300	29	43	86	36	54	108
Mercury Vapour Lamp	125	300	45	68	135	56	85	169
Mercury Vapour Lamp	160	300	58	86	173	73	108	216
Mercury Vapour Lamp	250	300	90	135	270	113	169	338
Mercury Vapour Lamp	400	300	144	216	432	180	270	540
Sodium Vapour Lamp	70	300	25	38	76	31	48	95
Sodium Vapour Lamp	80	300	29	43	86	36	54	108
Sodium Vapour Lamp	100	300	36	54	108	45	68	135
Sodium Vapour Lamp	125	300	45	68	135	56	85	169
Sodium Vapour Lamp	150	300	54	81	162	68	101	203
Sodium Vapour Lamp	250	300	90	135	270	113	169	338
CFL	11	150	2	3	6	3	4	8
CFL	22	150	4	6	12	5	8	15
CFL	44	150	8	12	24	10	15	30
CFL	18	150	3	5	10	4	6	13
CFL	36	150	6	10	19	8	13	24
CFL	72	150	13	19	39	16	24	49
CFL	15	150	3	4	8	4	5	10
CFL	30	150	5	8	16	6	10	20
CFL	36	150	6	10	19	8	13	24
CFL	72	150	13	19	39	16	24	49
CFL	144	150	26	39	78	33	49	98
LED	18	150	3	5	10	4	6	13
Mercury vapour lamp	1200	300			1296	0	0	1620
Sodium vapour lamp	250	300			270	0	0	338

B. Proposal for Tariff of Metered Street Lights

Table 8.24
Existing and Proposed Tariff for Metered Street lighting

Particulars	Existing tariff	Proposed tariff
Fixed charge (Rs/meter/month)	30	40
Energy charge (paise/unit)	275	315

A. Approved Composite Tariff

Table 8.25
Proposed and Approved Composite Tariff for Street lighting

TYPE OF LAMP		Proposed Tariff			Approved Tariff		
		Rs/Consumer /Month			Rs/Consumer/Month		
	Watts (W)	4 Hours	6 Hours	12 Hours	4 Hours	6 Hours	12 Hours
Ordinary	40	18	28	54	16	25	49
Ordinary	60	28	40	81	25	37	75
Ordinary	100	45	68	135	41	62	124
Fluo tube	40	18	28	54	16	25	49
Fluo tube	80	36	54	108	33	49	99
Floodlight	1000	450	675	1350	414	621	1242
MV Lamp	80	36	54	108	33	49	99
MV Lamp	125	56	85	169	52	78	155
MV Lamp	160	73	108	216	67	99	199
MV Lamp	250	113	169	338	104	155	311
MV Lamp	400	180	270	540	166	248	497
SV Lamp	70	31	48	95	29	44	87
SV Lamp	80	36	54	108	33	49	99
SV Lamp	100	45	68	135	41	62	124
SV Lamp	125	56	85	169	52	78	155
SV Lamp	150	68	101	203	62	93	186
SV Lamp	250	113	169	338	104	155	311
CFL	11	3	4	8	2	3	7
CFL	22	5	8	15	5	7	14
CFL	44	10	15	30	9	14	28
CFL	18	4	6	13	3	6	12
CFL	36	8	13	24	7	12	22
CFL	72	16	24	49	15	22	45
CFL	15	4	5	10	3	5	9

CFL	30	6	10	20	6	9	18
CFL	36	8	13	24	7	12	22
CFL	72	16	24	49	15	22	45
CFL	144	33	49	98	30	45	90
LED	18	4	6	13	3	6	12
MV Lamp on semi high mast only for 12 hours burning per day	1200			1620			1490
SV Lamp on semi high mast only for 12 hours burning per day	250			338			311

**Table 8.26
Approved Tariff for Metered Street lights**

Particulars	Existing tariff	Proposed tariff	Approved tariff
Fixed charge (Rs/meter/month)	30	40	30
Energy charge (paise/unit)	275	315	300

LT X : Display Lighting and Hoardings:

Display Lighting, hoarding, external illumination of buildings for publicity and sales - promotion purposes .

8.96 As a measure to contain avoidable and extravagant consumption for opulent and decorative purposes like display lighting, advertising boards and hoardings the Commission has decided to charge this category of consumers at higher tariff than that of Commercial category. The tariff shall be set in such a way that such consumption will be dissuaded to the maximum extent and they will be persuaded to look for alternate forms of electricity. But it is made clear that the electricity used for the purpose of displaying the name, address, working time and such other absolutely essential details of any institutions in any of the consumer categories (including industrial, commercial, agricultural and non-domestic) will not come under the new category of LT X Display Lightings and Hoardings and for such essential and unavoidable display boards, the consumers will be permitted to use electricity at the same tariff rate applicable to the category to which such consumers belong. Commission accepts the proposal of KSEB in this regard and approves the following tariff for the category :

Table 8.27
Approved Tariff for LT X Display Lighting & Hoardings

Particulars	Approved tariff
Fixed charge (Rs/connection/month)	500
Energy charge (paise/unit)	1250

Tariff for High Tension (HT) Power Supply

HT-I Industrial

8.97 This is the tariff applicable to general purpose industrial load. The Board has proposed about 18% increase in the tariff of HT-I industrial category. The realisation rate from HT- I Industrial category based upon ACoS at present is around 112 %. The Commission has to fix the revised rates taking this fact also into consideration. Due to reasons explained in paragraph 8.15 in Section I the Commission has decided to constitute IT and IT enabled industries (except call centers) as a separate sub category namely HT I (B) and all other conventional industries are retained under HT I (A) Industrial. The tariffs approved for HT I(A) and HT I(B) are given below

HT I (A) Industry:

8.98 Tariff applicable to general purpose industrial load including Printing Presses (including presses engaged in printing dailies), Plantations, granite crushing units, Seafood Processing Units, all non-agricultural pumping, drinking water pumping for public by Kerala Water Authority, corporations, Municipalities and Panchayats, Processing of milk by pasteurization, storage and packing

8.99 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

Table 8.28 (A)
Existing and Proposed Tariff for HT I Industrial

Particulars	Existing tariff	Proposed Tariff
Demand charge (Rs/ kVA per	300	360
Energy Charge (paise per unit)	410	485

Table 8.28 (B)
Approved Tariff for HT I (A) Industrial

Particulars	Approved tariff
Demand charge (Rs/ kVA per	300
Energy Charge (paise per unit)	460

HT I (B) IT and IT Enabled Services

8.100 Tariff applicable for IT and IT enabled industries including computer consultancy service units with SSI registration engaged in software services and data processing activities and desktop publishing, software units but excluding call centres

The tariff approved for this category is given below:

Table 8.29
Approved Tariff for HT I B

Particulars	Approved Tariff
Demand charge (Rs/ kVA per month)	300
Energy Charge (paise per unit)	500

HT-II Non-Industrial/ Non- Commercial

8.101 The average realisation rate of this category is around 125%. The Commission has decided to increase the tariff in proportion to the increase in ACoS.

8.102 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

Table 8.30
Existing, Proposed and Approved Tariff for HT II

Particulars	Existing Tariff	Proposed Tariff	Approved Tariff
Demand charge (Rs/ kVA per month)	350	420	350
Energy Charge (paise per unit)	410	485	445

HT-III Agriculture

8.103 The present tariff is applicable to agricultural consumers for cultivations including dewatering, lift irrigation, sericulture, poultry farms, piggery farms etc. The Commission has noted that the present cost recovery from this category is about

99%. The increase proposed by the Board is about 18%, which is comparatively high. The agriculture category has always been a subsidised category. The Commission cannot approve the proposal for increasing the tariff of the consumers in primary sector to about 122% of average cost of supply.

As in the case of LT V Agriculture category, in the HT III Agriculture category also commission has decided to constitute two sub categories namely HT III(A) and HT III (B) as explained in paragraph 8.12 of Section I..

**Table 8.31
Proposed Tariff for HT III Agriculture**

Particulars	Existing Tariff	Proposed Tariff
Demand charge (Rs/ kVA per	165	200
Energy Charge (paise per unit)	180	250

HT III (A) Agriculture

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

8.105 There is no increase in tariff for this category. The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

**Table 8.32
Approved Tariff for HT III (A) Agriculture**

Particulars	Approved Tariff
Demand Charge (Rs/kVA per month	165
Energy Charge (paise per unit)	180

HT III (B) Agriculture

8.106 Tariff applicable to agricultural purposes such as poultry farms, silk worm breeding units, livestock farms , combination of livestock and dairy farms, Aquaculture, floriculture, tissue culture, sericulture and mushroom culture livestock farms, livestock farms with dairy farms, , fish farms including ornamental fish farms, prawn farms ,other aqua farms , rabbit farms , piggery farms ,agricultural and floricultural nurseries , hatcheries etc

The approved tariff is given below:

Table 8.33
Approved Tariff for HT III (B) Agriculture

Particulars	Approved Tariff
Demand charge (Rs/ kVA per month)	165
Energy Charge (paise per unit)	230

HT-IV Commercial:

8.107 This is the tariff applicable to commercial establishments. Existing cost recovery from this category is 169%. As in the case of LT Commercial category the Commission has decided to exclude self-financing educational institutions, private hospitals etc from the commercial category and to keep them under a separate category called HT V General.

This category being subsidizing category the increase in tariff should be in tune with the increase in ACoS. The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission are as shown below:

8.108 Tariff applicable to commercial establishments such as airports, hotels/restaurants, lodges, hostels, guest/rest houses, travellers bungalows, cold storage, freezing units business houses, film studios, cinema theatres, milk chilling plants, offices/ telephone exchanges of telecom companies, radio stations, television broadcasting companies, television channels, LPG Bottling plants and construction works.

Table 8.34
Existing, Proposed and Approved Tariff for HT IV Commercial

Particulars	Existing Tariff	Proposed Tariff	Approved Tariff
Demand charge (Rs/ kVA per month)	400	470	400
Energy Charge (paise per unit)			
Up to 30,000 Units	550	630	610
Above 30,000 Units	650	750	720

HT V General

8.109 This is a new category. The tariff applicable to private hospitals, private clinical laboratories, private X-ray units, private mortuaries, private blood banks, private scanning centres, computer training institutes, Self-financing educational institutions (including hostels)

Table 8.35
Approved Tariff for HT V General

Particulars	Approved Tariff
Demand charge (Rs/ kVA per month)	400
Energy Charge (paise per unit)	600
Up to 30,000 Units	
Above 30,000 Units	700

Tariff for Extra High Tension (EHT) Connections

8.110 The EHT power supply in the State has traditionally been catering to large industries, factories and other plants. It has been pointed out that due to rapid changes in the economic scenario in the State, power supply at EHT level has been sought for non industrial purposes also. KSEB has also propose for an EHT commercial tariff. Hence the Commission has reviewed the EHT tariff structure as a whole and decided that segregation of EHT tariff based on industrial and non Industrial purposes has become necessary now. Accordingly the existing EHT tariff at 66kV, 110kV and 220 kV shall be reclassified as EHT Industrial tariff and EHT Non Industrial tariff.

8.111 The tariff proposed by the Board for 66kV and 110kV and 220 kV consumers is as shown below:

Table 8.36
Proposed Tariff for EHT Categories

Particulars	Existing Tariff			Proposed Tariff		
	66kV	110kV	220kV	66kV	110 kV	220kV
Demand charge (Rs/ kVA per month)	300	290	275	360	350	330
Energy Charge (paise per unit)	400	400	400	475	475	475

8.112 The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission for 66 kV supply are as shown below:

Table 8.37
Approved Tariff for EHT 66kV Industrial Category

Particulars	Existing Tariff	Proposed Tariff	Approved Tariff
	66kV	66kV	66kV
Demand charge (Rs/ kVA per month)	300	360	300
Energy Charge (paise per unit)	400	475	440

The existing tariff, the tariff proposed by the Board and the tariff approved by the Commission for 110 kV supply are as shown below:

Table 8.38
Approved Tariff for EHT 110kV Industrial Category

Particulars	Existing Tariff	Proposed Tariff	Approved Tariff
	110kV	110kV	110kV
Demand charge (Rs/ kVA per	290	350	290
Energy Charge (paise per unit)	400	475	430

EHT 220 kV Industrial Tariff :

8.113 The existing, proposed and approved tariff of 220 KV consumers are given below:

Table 8.39
Proposed and Approved Tariff for EHT 220kV Industrial category

Particulars	Existing Tariff	Proposed Tariff	Approved tariff
	220kV	220kV	220kV
Demand charge (Rs/ kVA per month)	275	330	275
Energy Charge (paise per unit)	400	475	435

EHT Non Industrial:

8.114 KSEB has proposed a new EHT commercial tariff. The Commission has considered the proposal and decided to designate the tariff as EHT Non Industrial tariff applicable to all Non Industrial power supply at 66kV, 110kV and 220 kV.

Table 8.40
Approved Tariff for EHT Non-Industrial category

Particulars	Approved tariff
Demand charge (Rs/ kVA per month)	375
Energy Charge (paise per unit)	
Upto 60,000 units	600
Above 60,000 units	700

Tariff for Railway Traction

8.115 KSEB has been supplying electricity to the Railway for Traction at 110 kV EHT tariff. However, ToD tariff is not made applicable to them. The Board has proposed an increase of about 20% in the existing tariff mainly on cost increases.

The Board has stated that the Railway Traction Tariff in the State is the lowest in the Country. The Tariff proposed by the Board is shown below:

**Table 8.41
Existing, Proposed and Approved Tariff for Railways**

Particulars	Existing Tariff	Proposed Tariff	Approved Tariff
Demand charge (Rs/ kVA per month)	250	310	250
Energy Charge (paise per unit)	400	475	435

8.116 The existing cost recovery from railway traction is 110kV. In view of the increase in ACoS the traction tariff has also to go up moderately, without changing the cross subsidy levels. Railways requested that the Demand charges for Railways shall be kept at Rs 250 kVA/Month and cross subsidy for energy charges shall not be increased. This plea has been taken into consideration while fixing the tariff.

Summary of Tariff Revision

8.117 Based on the above, the average tariff increase and additional revenue realisation on an yearly basis is worked out as shown below:

Table 8.42 (a) Proposed and Approved Revenue after Tariff Revision

Tariff Category	Sales (MU)	Existing Tariff	KSEB proposed Tariff			Approved Tariff	
		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 I & II Domestic	8934	2,492.89	3,288.32	795.42	31.9%	2,756.03	263.14
LT IV Industrial,	1125	574.70	675.61	100.91	17.6%	627.55	52.85
LT V Agricultural	317	54.31	72.42	18.10	33.3%	58.27	3.96
LT VI Non-Domestic	696	509.70	560.01	50.32	9.9%	529.46	19.76
LT VII Commercial	1837	1,419.37	1,545.78	126.41	8.9%	1,496.95	77.58
Pub lighting	279	76.61	87.75	11.14	14.5%	83.57	6.96
LT Total	13188	5,127.57	6,229.88	0.19	21.5%	5,551.82	424.25
HT- I Industrial	1748	905.48	1,074.34	168.86	18.6%	996.35	90.87
HT-II Non-indu/Non-comm	114	67.63	80.36	12.73	18.8%	71.63	4.00
HT III Agriculture	8	3.62	4.64	1.02	28.2%	3.72	0.10
HT-IV Commercial	1072	827.68	956.99	129.30	15.6%	899.49	71.81
EHT -66kV	369	182.43	217.07	34.64	19.0%	197.18	14.75
EHT-110 kV	976	473.66	564.08	90.43	19.1%	502.93	29.28
EHT 220kV	68	37.43	44.58	7.15	19.1%	39.81	2.38
Railways	144	75.02	90.01	14.99	20.0%	80.05	5.03
Total (except Bulk supply)	17686	7,700.51	9,261.94	1,561.42	20.3%	8,342.98	642.47

Table 8.42 (b) Table : Cost Coverage and Increase in Tariff

Tariff Category	Cost Coverage		Average Tariff		Increase (%)
	Cost Coverage in 2012-13 revision	Cost coverage as per Revised tariff (revised sales)	Average realisation in 2012-13 revision	Average Tariff as per Approved Tariff	Increase in tariff wrt 2012-13 Average tariff
LT I & II Domestic	60.59%	61.22%	2.81	3.08	9.7%
LT IV Industrial,	110.9%	110.7%	5.15	5.58	8.4%
LT V Agricultural	38%	37%	1.77	1.84	3.7%
LT VI Non-Domestic	166%	151%	7.68	7.60	-1.0%
LT VII Commercial	171%	162%	7.95	8.15	2.5%
Pub lighting	59%	60%	2.75	3.00	9.1%
LT Total	85%	84%	3.93	4.21	7.1%
HT- I Industrial	112.3%	113%	5.21	5.70	9.4%
HT-II Non-indu/Non-comm	124.8%	124.4%	5.79	6.27	8.2%
HT III Agriculture	99%	93%	4.58	4.67	2.0%
HT-IV Commercial	169%	167%	7.85	8.39	6.9%
EHT -66kV	107%	106%	4.97	5.35	7.5%
EHT-110 kV	101.4%	102%	4.70	5.15	9.6%
Railways	109.9%	110.5%	5.10	5.57	9.2%
Total (except Bulk supply)	94%	94%	4.37	4.72	7.9%

SECTION 3 TIME OF DAY TARIFF

ToD Tariff for Industrial Consumers

8.118 Commission carefully examined the existing ToD tariff structure of EHT , HT and LT industrial consumers. The existing ToD tariff structure of HT and EHT consumers are given below:

**Table 8.43
Rates as Percentage of Ruling Charges (EHT /HT):**

	Normal period (6.00 hrs to 18 hrs)	Peak period (18.00 hrs to 22.00 hrs)	Off peak (22.00hrs to 6.00 hrs)
Demand charges	100%	150%	80%
Energy charges	100%	140%	85%

**Table 8.44
Rates as Percentage of Ruling Charges (LT Industrial)**

	Normal period (6.00 hrs to 18 hrs)	Peak period (18.00 hrs to 22.00 hrs)	Off peak (22.00hrs to 6.00 hrs)
Energy charges	100%	125%	80%

- 8.119 It has been observed that the ToD tariff structure for demand charges has yielded little benefit for both licensees and the consumers. More over the general practice followed in most of the states is to provide ToD tariff for energy charges only. Hence the Commission decides to discontinue the ToD structure for demand charges for HT and EHT consumers.
- 8.120 The ToD structure for EHT/HT and LT industrial consumers shall be modified in order to achieve the twin objectives of providing dis-incentive for industries operating during evening peak hours as well as incentivizing the shifting of loads to night off peak hours , which will be beneficial for the power system as a whole.
- 8.121 The ToD tariff structure for EHT/HT consumers as well as LT Industrial consumers with Connected Load above 20 KW shall be as given below:

Table 8.45
Rates as Percentage of Ruling Charges

	Normal period (6.00 hrs to 18 hrs)	Peak period (18.00 hrs to 22.00 hrs)	Off peak (22.00hrs to 6.00 hrs)
Energy charges	100%	150%	75%

NOTE: The actual maximum demand of the above consumers shall be continued to be recorded during the above 3 time zones and the excess maximum demand shall be penalized as given below.

- 8.122 Excess demand charges: Excess demand charges shall be applicable to the recorded maximum demand in excess of contract demand during normal period and peak period, which shall be charged at 50% extra (ie., excess demand during normal/peak period x ruling demand charges x 0.5). However Excess demand charges during off-peak period shall be applicable only if the recorded maximum demand during off peak period is in excess of 130% of the contract demand.

SECTION 4 REVISION OF BULK SUPPLY TARIFF

- 8.123 The Board has proposed revision of Bulk Supply Tariff applicable to the licensees who purchase power from the Board. Since the Board has proposed 15 to 20% increase in retail supply tariff, 17% uniform increase in BST was proposed for 2013-14. The Commission has revised the Retail Supply Tariff for the year 2013-14 and the same is applicable to the consumers of all licensees. The Commission will issue the order on revision of BST separately after considering approved ARR&ERC of licensees and the increase in revenue due to revision of retail tariff, effective from 1-5-2013. The revised BST will also be effective from 1-5-2013.

SECTION 5 OPEN ACCESS CHARGES

(Transmission Charges, Wheeling Charges & Cross subsidy Surcharge)

8.124 The Board has submitted the proposals for open access charges as an addendum to the original proposal along with tariff re-categorisation proposals. The details of the proposal and decision of the Commission are dealt with below:

Transmission & Wheeling charges:

8.125 The Board in its petition stated that per the methodology given in the Model Terms and Conditions of Intra-State Open Access Regulations September 2010, the transmission charges / wheeling charges is to be approved at Rs/MW/day basis, based on the contracted capacity, scheduled drawal or actual drawal, which ever is higher. However, the Commission has been approving the transmission and wheeling charges on per unit basis, based on the ARR estimated for transmission and distribution functions. Accordingly, the Board estimated the transmission charges and wheeling charges for the year 2013-14 based on the same methodology adopted by the Commission for the year 2012-13.

8.126 Transmission charges proposed by the Board based on the projections given in the ARR& ERC petition for 2012-13 as shown below:

Table 8.46
Transmission Charges Proposed by the Board

(1)	ARR for Transmission (Table-8-55 of the ARR &ERC petition)	806.78	Rs. Cr
(2)	Energy input into the System (Table 7-23 of the ARR)	21657	MU
(3)	Transmission loss (5%)	1083	MU
(4)	Net energy available for sale to Distribution = (2)-(3)	20574	MU
(5)	Transmission charges payable = (1)/(4)	0.39	Rs/unit

8.127 The transmission charges estimated by the Board is 39paise per unit based on the ARR segregated for Transmission.

8.128 For estimation of wheeling charges, the actual value of distribution assets upto 11kV system and between 11kV and upto low voltage system is yet to be segregated. According to the Board any underestimation of the value of distribution assets above 11kV may ultimately burden the LT consumers. Considering this, the Board proposed to adopt 50% of the total distribution ARR as the ARR for the

distribution system above 11kV. Further distribution losses upto 11kV is assumed as 10%. Based on the above, wheeling charges for the year 2013-14 is estimated as 82 paise per unit as shown below:

Table 8.47
Wheeling Charges Proposed by the Board

(1)	ARR for Distribution (Table 8-55 of the ARR)	2756.04	Rs. Cr
(2)	ARR for 11/ 33 kV (50% of the total distribution expense)	1378.02	Rs. Cr
(3)	Energy input into the System (Table 7-23 of the ARR)	21657	MU
(4)	Consumption by EHT consumers (including bulk licensees and railway traction)	1993	MU
(5)	Transmission loss	1083	MU
(6)	Energy carried by 33/22/ 11kV = (3)-(4)-(5)	18581	MU
(7)	Loss in the 11 kV/ 22 kV / 33 kV system (10%)	1858	MU
(8)	Net energy carried by 33/22/11 kV = (6)-(7)	16723	MU
(9)	Wheeling charges payable = (2)/(8)	0.82	Rs/unit

8.129 KSEB has estimated the ARR of distribution as Rs.2756.04 crore and assumed that 50% of the total distribution expense at HT level (11 kV / 33 kV) expenses. The losses in the HT system is taken as 10% of the energy input. Based on the figures in the ARR&ERC petition of KSEB for the year 2013-14, the wheeling charges for the year 2013-14 is estimated as 82 paise per unit. A comparison of existing and proposed transmission and wheeling charges is given below:

Table 8.48
Existing and Proposed Transmission and Wheeling Charges

	Existing (paise per unit)	Proposed by KSEB (paise per unit)
Transmission charges	22	39
Wheeling Charges (HT Level only)	26	82

8.130 The Commission has examined the proposal of the Board. Many prospective open access consumers have objected to the proposal of the Board and suggested that the open access charges are to be reasonable and should promote open access. Based on the approved level of losses of 14.73% for 2013-14, reasonable level of segregation of losses at the voltage level has to be worked out as done in the Tariff Order of the Commission dated 25.07.2012. Accordingly, the transmission losses (EHT level) is fixed at 3% and HT level losses at 4.5%.

The balance losses at LT level at reasonable approximation will be about 11.21%.
The energy flow at different voltage levels thus assumed as given below:

Table 8.49
Energy Flow at Voltage Levels

	EHT	HT	LT	Total
Loss (%)	3.00%	4.50%	11.21%	14.73%
Loss (MU)	642	845	1,664	3,151
Sales	1969	3082	13188	18239
Energy usage	2,611	3,927	14,852	21390
Energy Transferred	18,779	14,852		
Energy Handled	20,748	17,934	13,188	

8.131 Based on this premise, the transmission and wheeling charges shall be estimated. The Commission has revised the open access charges in the previous tariff order effective from 1-7-2012. The methodology followed by the Commission in the previous order is followed in this year also. Based on the provisional accounts of KSEB for the year 2011-12, the split up of ARR for generation, transmission and distribution will be approximately 17.7%, 15%, and 67.3% respectively if expenses under the heads 'construction, Stores & Management and administration are apportioned functionally (Gen/Tran/Dist) based on GFA. Accordingly, the split up of approved ARR is as follows:

Table 8.50
Split up of Function wise Approved ARR for 2013-14

Function	Share of each function	Split up of Approved Net ARR (Rs.crore)
Generation	17.7%	460.85
Transmission	15.0%	391.06
Distribution	67.3%	1,750.54
Total	100.0%	2,602.44
Power Purchase		6,588.51
Total		9,190.95

Based on the above, transmission charges are given below:

Table 8.51
Proposed and Approved Transmission Charges

	Proposed by the Board	Approved by the Commission
Transmission ARR (Rs. crore)	806.78	391.06
Energy Handled (MU)	20574	20748
Transmission Charges (paise per unit)	39	19

8.132 The split up of distribution ARR into HT & LT level based on the value of network is taken as 25% and 75% respectively as in Tariff order dated 25.07.2012. Accordingly, the approved wheeling charges at HT level is given below:

Table 8.52
Proposed and Approved Wheeling Charges

	Proposed by the Board	Approved by the Commission
Distribution ARR (HT Level) (Rs.crore)	1378.02	437.63
Energy Handled (MU)	18581	17934
Wheeling Charges at HT level (paise per unit)	82	24

8.133 Based on the above, the transmission charges is fixed at 19 paise per unit and wheeling charges at HT level is fixed at 24 paise per unit.

Cross Subsidy Surcharge :

8.134 As per the formula given in the Tariff Policy, Board has estimated the surcharge for the approval of the Commission. The Board estimated average cost of power purchase from top 5% sources for the year 2013-14 excluding the power purchase from liquid fuel stations and energy from renewable sources as shown below:

Table 8.53
Weighted Average Cost of Top 5% Power Purchase as Proposed by the Board

Power Plant	Energy schedule at generator bus	Fixed Cost	Tax, incentive etc.	Variable cost	Total cost	Average Tariff
	(MU)	(Rs. Cr)		(Rs.Cr)	(Rs.Cr)	(Rs/unit)
TALCHER - Stage II	3113.74	238.11	11.38	467.06	716.55	2.30
NLC- Exp- Stage-1	436.32	59.07	28.05	78.1	165.22	3.79
NLC-II- Stage-1	388.54	24.12	7.56	76.15	107.83	2.78
NLC-II- Stage-2	553.31	35.07	13.43	108.45	156.95	2.84
RSPTS Stage I & II	2359.28	150.05	14.39	368.05	532.49	2.26

MAPS	128.55	26.19	0.49	0	26.68	2.08
KAIGA Stg I	242.74	72.95	1.49	0	74.44	3.07
KAIGA Stg II	225.05	67.64		0	67.64	3.01
Simhadri Exp	609.87	104.09		113.44	217.53	3.57
Farakka STP	113.48	9.65		27.58	37.23	3.28
Kahalgon	59.18	5.03		14.38	19.41	3.28
Talcher-I	65.58	5.57		15.93	21.5	3.28
Kudamkulam	1376.79	447.46		0	447.46	3.25
NLC - II Exp	293.93	35.27		58.79	94.06	3.20
Vallur JV with	187.58	28.14		37.52	65.66	3.50
Tuticorin JV	82.08	12.31		16.42	28.73	3.50
Traders Firm						
PTC June 2012 to May 2014	584					4.17
PTC June 2012 to May 2014	584					4.27
Total Energy	11404.02	1320.72	76.79	1381.87	2779.38	
5% of Energy purchase	570					
Weighted Average cost of the top 5% power purchase (Rs./kWh)	4.27					

8.135 According to the Board, all sources of power purchase including traders having firm contracts to supply power to KSEB has been considered for arriving at the cost of power purchase for the top 5%, excluding liquid fuel stations and renewable power. The cost of power purchase for the top 5% of the power purchase for the year 2013-14 is estimated by the Board as Rs.4.27 per unit. Based on the above, the cross subsidy surcharge for EHT-1 66 kV, EHT-II 110 kV, HT-1 Industrial and HT-IV commercial categories is estimated by the Board by adopting the surcharge formula as per the Tariff Policy is shown below:

Table 8.54

Cross Subsidy Surcharge Proposed the Board for Open Access Consumers

Category	Average Tariff	Weighted average cost of Power purchase (C)	System Losses (L)	Transmission/ Wheeling charges (D)	Cost = $C(1+L/100)+D$	Surcharge applicable
	Rs./kWh	Rs./kWh	(%)	Rs./kWh	Rs./kWh	Rs./kWh
EHT-66kV	5.88	4.27	5%	0.39	4.87	1.01
EHT-110kV	5.77	4.27	5%	0.39	4.87	0.9
Railways	6.06	4.27	5%	0.39	4.87	1.19
HT-I Industrial	6.15	4.27	10%	0.82	5.52	0.63
HTII Non industrial	6.77	4.27	10%	0.82	5.52	1.25
HT IV Commercial	9.09	4.27	10%	0.82	5.52	3.57

8.136 Detailed comments on open access charges were given by the HT-EHT Association. According to them, the cross subsidy surcharge for EHT I, EHT II, EHT III and HT I industrial is zero. After considering the proposal of the Board and the objections of the consumers, the surcharge arrived at by the Commission is explained in following sections.

8.137 As per the approved power purchase for FY 2013-14, the power purchase at the top 5% margin excluding Liquid Fuel stations, as envisaged in the Tariff polity is purchase from traders at Rs.5.00 per unit. Of the total energy requirement of 13715MU, other than liquid fuel stations and renewable power, the Commission has approved power purchase of 4482 MU from traders and other short term sources at the rate of Rs.5 per unit. Accordingly, the cost of energy purchase at 5% margin is Rs.5 per unit for the purpose of estimating cross subsidy surcharge.

8.138 The formula as per the Tariff Policy is given below:

Surcharge formula :

$$S = T - [C (1+L/100) + D]$$

Where

S is the cross subsidy surcharge

T is the Tariff payable by the relevant category of consumers;

C is the Weighted average cost of power purchase of top 5% at the margin excluding liquid fuel based generation and renewable power.

D is the Wheeling charge

L is the system Losses for the applicable voltage level, expressed as a Percentage.

8.139 Based on the surcharge formula, the surcharge applicable to different categories is estimated as shown below:

Table 8.55
Power Purchase at 5% Margin Based on Approved cost

Source	Net Energy Input to KSEB T&D system	Total Cost	Cost/kWh
	MU	Rs. Cr	
Total Energy Input Approved	21390	6,265.37	
Energy from Hydel, LFS & RE Stations	7675	1,504.88	
Power Purchase Excluding RE&LF Stations			
Traders/Exchanges	4482	2,241.00	5.00
Simhadri Exp	585	217.53	3.72
Tuticorin JV	79	28.73	3.65

Vallur JV	180	65.66	3.65
Farakka STP	109	37.23	3.42
Kahalgon	57	19.41	3.42
Talcher-I	63	21.50	3.42
Kudamkulam	660	223.67	3.39
NLC - II Exp	282	94.06	3.34
NLC- Exp- Stage-1	418	137.17	3.28
KAIGA Stg II	216	67.64	3.13
KAIGA Stg I	233	72.95	3.13
NLC-II- Stage-2	531	143.52	2.70
NLC-II- Stage-1	373	100.27	2.69
TALCHER - Stage II	2986	705.17	2.36
MP steel	41	9.42	2.31
RSPTS Stage I & II	2263	518.10	2.29
MAPS	123	26.19	2.12
PCBL	36	7.27	2.02
Total Power purchase excluding LFS & RE	13715		
Energy at the 5% Margin	686	MU	
Weighted Average cost of Energy at 5% Margin			5.00

8.140 Based on the power purchase cost at top 5% margin arrived at shown above and the average tariff for different consumer categories based on approved tariff, the surcharge applicable is arrived at shown below:

Table 8.56
Cross Subsidy Surcharge Estimated by the Commission

Category	Average Tariff (T) (Rs./kWh)	Weighted Average Cost of Power purchase (C) (Rs./kWh)	System Losses (L)	Wheeling Charge (D) (Rs./kWh)	Cost (C+D) (Rs./kWh)	Surcharge Applicable (Rs./kWh)
EHT -66kV	5.35	5.00	3.0%	0.19	5.34	0.01
EHT-110 kV	5.20	5.00	3.0%	0.19	5.34	0.00
EHT -220KV	5.85	5.00	3.0%	0.19	5.34	0.52
Railways	5.57	5.00	3.0%	0.19	5.34	0.23
HT- I Industrial	5.70	5.00	7.0%	0.43	5.78	0.00
HT-II Non-indu/Non-comm	6.62	5.00	7.0%	0.43	5.78	0.84
HT III Agriculture	4.67	5.00	7.0%	0.43	5.78	0.00
HT-IV Commercial	8.39	5.00	7.0%	0.43	5.78	2.61

8.141 Thus the surcharge arrived at by the Commission is much lower than the rates proposed by the Board. Accordingly, the Commission is of the view that, lower surcharge will encourage open access transactions in the State and provide choice for the Consumers as provided under the Act. **The approved cross subsidy surcharge applicable for different consumer categories** is given below:

Table 8.57**Existing, Proposed and Approved Cross Subsidy Surcharge**

Categories	Existing	Proposed	Approved
	(paise/unit)	(paise/unit)	(paise/unit)
EHT 66kV	11	101	0
EHT 110kV	0	90	0
EHT 220kV		NA	52
Railways	24	119	23
HT-I Industrial	0	63	0
HT-II Non-Industrial	49	125	84
HT-IV Commercial	255	357	261

Tariff Applicable for Stand by Supply:

8.142 The Commission in its order dated 4-8-2009 had approved the standby charges for default supply by the incumbent licensees as the average rate (including both fixed and energy charges) of the category applicable to the consumer. The same principle shall be continued for the standby charges in the previous tariff order. Accordingly, the standby charges shall be applicable for the actual energy consumed by the open access consumers in case of availing default supply from incumbent licensees.

SECTION 6 MISCELLANEOUS**Incentives for HT/EHT Consumers**

8.143 The HT & EHT Industrial Electricity Consumers Association and some representatives of EHT consumers have sought incentives such as Load factor incentive, Power factor incentive, Bulk consumption discount, Prompt payment incentive etc along with modification of ToD tariff. They had pointed out enabling provisions in the Electricity Act 2003 and certain regulations. They have pointed out that higher load factor and higher power factor would result in better utilization of the system. They have also pointed out that bulk energy consumption would bring significant benefits as it shall increase revenues to the Board and provide more amounts for cross subsidy. They also suggested that they should be given prompt payment incentives as received by the Board from power suppliers.

8.144 Commission carefully considered the pleadings of the Association on the matter. In the prevailing situation in the State, the Commission does not find any justification or need for incentivizing huge power intensive consumption with high load factor or similar bulk consumption by EHT consumers . So also in the present situation, no incentive can be granted only to HT/EHT consumers for prompt payment since every consumer is expected to make prompt payment of electricity charge. Power factor incentive has already been increased to reasonable levels in the tariff revision with effect from 1st July 2012 .

8.145 The Commission is therefore constrained to decline the request for load factor incentive, bulk consumption discount, prompt payment incentive etc and increase in power factor incentive.

Solar Power

8.146 The Government of Kerala has published the draft of a Kerala Solar Energy Policy 2013. Solar electricity generation is expected to receive a fillip in the current year itself due to such policy initiatives. KSEB and other licensees should provide an enabling environment and should support the individual initiatives for development of solar electricity.

8.147 Connectivity to the Grid should be provided to all developers of solar electricity after approving and declaring the required technical protocol related to safety and other technical standards.

8.148 KSEB shall approach the Commission with appropriate proposals related to net metering, feed in tariff, banking etc on or before 31.07.2013. The Commission expects that KSEB would initiate appropriate pro active steps that will enable them to procure 0.25% of their energy consumption from solar sources during the FY 2013-14 , as provided in the Regulations ,from within the State itself

CHAPTER – 9

ORDER OF THE COMMISSION

- 9.1 The Commission after considering the documents placed before it and having heard the views of the stakeholders and the Board, does hereby approves an Aggregate Revenue Requirement of Rs.9546.20 crore and a total Expected Revenue from Charges of Rs.8496.29 crore as against Rs.11237.11 crore and Rs.8478.44 crore respectively projected by the Kerala State Electricity Board in the Petition No. OP 2 of 2013 for the year 2013-14, subject to the observations and conditions mentioned in this Order. The revenue gap approved for the year 2013-14 is Rs.1049.91 crore against Rs.2758.67 crore projected by the Board.
- 9.2 The Board had submitted a statement showing the function wise split up of costs on a tentative basis along with the ARR&ERC petition. There are many areas of ambiguities in apportioning of equity base, loss, fixed assets, capital liabilities etc. In the absence of a clear demarcation of functional costs, the details could not be verified at this stage. Further, the validity of assumptions made by the Board for function level disaggregation require in-depth examination. Hence, the Commission is not in a position to authenticate the function wise costs. The Commission defers the analysis of the function wise costs for the time being. As soon as the re-vesting process is over, the Board may approach the Commission with a proposal for splitting up the this approved ARR&ERC for the re-vested entity/entities.
- 9.3 KSEB had also filed proposals for bridging the revenue gap to the tune of Rs.1573.54 crore by tariff revision. After considering the petition filed by KSEB, the views of the stakeholders, additional submissions, clarifications etc., filed by KSEB, the Commission in exercise of its powers under Section 62 and Section 86(1) of the Electricity Act 2003 and after taking into consideration the stipulations in National Electricity Policy, National Tariff Policy and KSERC (Terms and conditions of Retail sale of Electricity) Regulations, 2006, does hereby order as given below:
- I. The retail tariff applicable to the consumers of KSEB are hereby approved with appropriate modifications as mentioned in respective sections given above. The order shall be effective from 1-5-2013 till 31-3-2014. The Commission, based on the information available, has assessed the additional revenue from revision of tariffs (**excluding BST**) at **Rs. 642.47** crore on a full year basis.

- II. The retail tariff approved as per this order shall be applicable to consumers of all other licensees in the State from 1-5-2013 till 31-3-2014 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 ToD scheme approved in this order for HT-EHT and LT industrial consumers with a connected load of and above 20kW shall be applicable to the consumers of all licensees. The Commission has decided to continue the existing ToD tariff for domestic consumers having monthly consumption above 500 units without change
- IV. The Commission will issue separate orders revising the Bulk Supply Tariff to other licensees and the revised BST shall also be effective from 1-5-2013 till 31-3-2014. The applicable shall for Military Engineering Service, Puthussery Electricity Department, Karnataka state, shall be the same as that of HT II.
- V. **The Charges for Open Access such as transmission charges, wheeling charges, cross subsidy surcharge as approved in this order shall also be effective from 1-5-2013 to 31-3-2014.**
- VI. Existing incentives for power factor shall continue without change until further orders.

9.4 Petition disposed of. Ordered accordingly.

Sd/-
P.Parameswaran
Member

Sd/-
Mathew George
Member

Sd/-
T.M.Manoharan
Chairman

Approved for Issue

Secretary

CHAPTER – 10

DIRECTIVES

- 10.1 The Commission expresses its serious concern over the rapidly increasing average cost of supply of power and over its contributory factors such as:
- i. rapidly increasing share of the cost of purchase of power, especially the prohibitively costly power from liquid fuel stations and from power exchanges.
 - ii. inordinate delays in the cost efficient and timely implementation of generation, transmission and distribution projects with project specific funding programmes
 - iii. tardy progress in replacement of faulty and sluggish meters with accurate electronic meters with time bound targets.
 - iv. inordinate delay in computerization of billing.
 - v. lethargic approach to the measures to keep under control the employee cost which has been increasing at an unprecedented rate in the recent past.
 - vi. non-proactive attitude and approach towards the investments in the projects for harnessing non -conventional and renewable energy sources.
 - vii. delay in implementation of effective programmes for demand side management and energy conservation activities with tangible results.
 - viii. insufficiency of various cost efficiency measures which would help improve the Board to come out of the present financial crisis.
- 10.2 In view of the facts and circumstances the Commission gives the following directives for immediate and time bound implementation and for periodic reports.
- i. the weighted average cost of power purchased from traders and power exchanges and availed through unscheduled inter change in each month during the financial year 2013-14, shall not exceed Rs.5.00 per unit. The Board shall submit on or before 10th of every month, a monthly report to the Commission, containing all relevant particulars of such purchases, such as source, quantum, rate and weighted average cost of power purchased during the previous month.
 - ii. the total quantum of energy drawn from the liquid fuel stations such as RGCCPP, KDPP, BDPP etc. in FY 2013-14 shall not exceed the quantum provided in the Table 5.28 of this order.
 - iii. non-compliance of the above directives may lead to disallowance of the extra expenses during trueing up exercise.

- 10.3 On expiry of the prevailing PPA with liquid fuel based IPPs such as BSES, KPCL etc., power should not be drawn from these stations under any circumstances, unless the developers convert the stations to LNG or pool sufficient quantum of cheaper power from other sources, so that the pooled tariff is well within the merit order for dispatch. Appropriate advance notice may be issued to such developers within 3 months from the date of issue of this order.
- 10.4 In order to give a boost to the renewable and alternate sources of energy, the Board shall take all possible proactive steps and provide connectivity within 3 months, to the grid at appropriate voltage levels for all developers of small hydro projects, wind energy, solar electricity and electricity from bio mass and municipal waste, including roof top solar developers, after finalizing the technical protocol related to safety, protection, isolation etc.
- 10.5 The Board shall submit proposal to the Commission on the commercial arrangements including net metering, feed in tariff, energy banking etc in relation to solar electricity upto 1 MW capacity within 3 months. Solar power above 1 MW should be bought by the Board only through competitive bidding route or APPC-REC route.
- 10.6 The Board should prepare and submit before 30.6.2013 a revised capital investment plan for generation, transmission and distribution wings with appropriate funding plan for the year 2013-14 with tangible physical and financial targets for the scrutiny, approval and periodic review of the Commission.
- 10.7 The Board shall streamline the power purchase functions in a professional manner and take advantage of the market fluctuations effectively. The Board should finalize long term contracts for power purchase, including the Case-1 bidding immediately. The Board should take timely advance action for booking corridors so that power restrictions are reduced to the minimum levels in the ensuing months.
- 10.8 The Board shall conduct a comprehensive study on losses in the system and report the voltage level loss as well as technical commercial separation of T&D loss within 6 months from the date of the order.
- 10.9 The implementation of R-APDRP (Part-A&B) projects shall be accorded top priority and time bound action should be taken. Monthly progress reports should be submitted by the Board, to the Commission on or before 20th of the succeeding month.
- 10.10 The Commission directs that the Board should have a specific time bound target for replacing faulty meters and old electro mechanical meters. A program should

be evolved to replace all such meters in the system within a specified time limit with good quality meters to ensure correctly metered supply.

10.11 As soon as the re-vesting process is over, the Board may approach the Commission with a proposal for splitting up the approved ARR & ERC for the re-vested entity.

10.12 The management of the Board shall make special efforts to ensure that the directives given by the Commission as stated in paragraph 5.111 of this order are complied with and shall submit on or before 30.6.2013, an action plan for the implementation of the said directives with tangible targets and time frames. While appreciating the fact that the Board, being a public sector undertaking, cannot retrench its staff or reduce their emoluments, there is no reason why re-deployment, training, re-skilling, job enrichment, re-fixation of job contents and targets for various classes of employees etc. cannot be resorted to as directed earlier. Since tangible and effective steps are not seen taken by the Board to contain the unprecedented growth of employee cost in the recent past, the Commission is constrained to advise the Board management to review and take appropriate action with regard to the following:

- i. re-deployment of staff in the closed and redundant units for urgent and unavoidable works.
- ii. computerization of billing using personal digital assistance (PDA) to be distributed to meter readers so that the entire data relating to billing can be transferred electronically without any error to the computers in the section offices, and consequently several hundreds of staff now being engaged for data entry relating to billing at section offices can be redeployed for other works and the daily target for spot billing can be suitably revised.
- iii. review the output of several field units engaged in survey, investigation etc. with a view to optimizing their output and redeploying excess staff if any
- iv. utilization of unutilized or underutilized skills of the technical staff for revenue earning consultancy or other works as is being done in central PSU like BSNL, especially in view of the fact that various Government Departments and Local Self Government Institutions in the State experience shortage of technical staff for execution of their civil and electrical works.

The Commission anticipates that the Board will review and streamline all its activities to improve productivity of human resources, efficiency gains and consumer satisfaction.

Sd/-

P.Parameswaran
Member

Sd/-

Mathew George
Member

Sd/-

T.M.Manoharan
Chairman