



# KERALA STATE ELECTRICITY REGULATORY COMMISSION

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1007/F&T/ Suo-motu tariff revision/ 2016-17

22-06-2016

## Public Notice

In exercise of the powers conferred under regulation 23 of Kerala State Electricity Regulatory Commission (Conduct of Business) Regulations, 2003 read with the directions of the Hon'ble APTEL in its judgment dated 11.11.2011 in OP No. 1/2011 as well as Sections 62 and 64 of the Electricity Act, 2003, the Kerala State Electricity Regulatory Commission hereby issues this notice for the purpose of determination of tariff for electricity for the financial year 2016-17 in suo motu proceedings. Suggestions and objections of the consumers and other stakeholders may be forwarded to the Secretary, Kerala State Electricity Regulatory Commission, KPFC Bhavanam, C.V.Raman Pillai Road, Vellayambalam, Thiruvananthapuram-695 010, so as to reach him on or before 22.07.2016. A public hearing will be held at the Court Hall of the Commission at 11 a.m. on 27.07.2016.

1. Section 62 and Section 64 of the Electricity Act-2003, deal with 'determination of tariff' and 'procedure for tariff order' respectively. The Commission has, under Section 61 of the Act, published the Kerala State Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2014 (hereafter mentioned as the Tariff Regulations, 2014) vide the notification No. 787/SEA/2011/KSERC dated 14<sup>th</sup> November 2014. As per regulation 11 of the Tariff Regulations, 2014, KSEB Ltd is bound to make, on or before 30.11.2015, an application for determination of tariff relating to 2016-17.
2. The Government of Kerala has issued the First Transfer Scheme and Second Transfer Scheme under Section 131 of the Act re-organizing the erstwhile Kerala State Electricity Board which was constituted under Section 5 of the Electricity (Supply) Act, 1948. As per the First Transfer Scheme issued vide GO (MS) 37/2008/PD dated 25.09.2008 and published as Statutory Rules and Orders (SRO) No 990/2008 in Kerala Gazette Extra Ordinary No.2090 dated 25.09.2008, the assets, liabilities, rights, and interests of the erstwhile KSEB stood transferred to and vested in Government. The Government of Kerala has, thereafter incorporated a Government Company namely, KSEB Ltd, with effect from 14.01.2012. As per the Second Transfer Scheme issued vide GO (P) No. 46/2013/PD dated 31.10.2013 and published as Statutory Rules and Orders (SRO) No 871/2013 in Kerala Gazette Extra Ordinary No.3103 dated 31.10.2013, the assets, liabilities, rights and interests of the erstwhile KSEB which were vested in the Government as per the First Transfer Scheme, were re-vested in the three Strategic Business Units (SBUs) namely, the Strategic Business Unit (Generation), the Strategic Business Unit (Transmission) and the Strategic

Business Unit (Distribution) under a Government Company namely, KSEB Ltd. As per the Second Transfer Scheme, the above strategic business units shall undertake the functions of generating company, State Transmission Utility and the distribution licensee. Sub-clause (viii) of clause 3 of the Second Transfer Scheme stipulates as follows,-

*Within the provisional period of one year from the date of re-vesting, the accounts of three SBUs will be segregated by the transferee so as to facilitate the evaluation of financial performance of these units. Separate balance sheet will be prepared for the three SBUs and suitable transfer pricing mechanism between the SBUs shall be worked out by the transferee taking into consideration the financial soundness of the three SBUs.*

In view of the statutory provisions in the second proviso under sub-section (2) of Section 31, the first proviso under sub-section (1) of Section 39 and the third proviso under Section 41 of the Act, these Strategic Business Units shall function independent of each other.

3. The Tariff Regulations, 2014, specifies the technical and financial norms for determination of tariff applicable to the Strategic Business Units (SBUs) of KSEB Ltd including Generation, Transmission and Distribution. Further, the said regulations also specify the principles, procedures, methodology and time lines for filing the ARR&ERC of each licensees in the State including KSEB Ltd and its SBUs before the State Commission. The normative values for determination of various components of the aggregate revenue requirements and tariff as per the Tariff Regulation, 2014 are applicable for the first control period, 2015-16 to 2017-18. As per the Regulation-11 of the said regulation, the application for approval of aggregate revenue requirement and determination of tariff for the first year of the first control period 2015-16 to 2017-2018 should be filed before the Commission on or before 31-12-2014. The regulation 11(2) of the Tariff Regulation stipulates that, during the subsequent years, an application for the approval of the revised aggregate revenue requirement, if any, for the ensuing financial year and for the determination of tariff for the ensuing financial year shall be filed, on or before 30<sup>th</sup> November of every subsequent financial year. The Regulation 11 of the Tariff Regulation 2014 is quoted hereunder.

***“11. Filing under multi-year tariff (MYT) framework. – (1) Every generating business/company or transmission business/licensee or distribution business/licensee or state load despatch centre shall file, on or before the Thirtieth day of November of the current financial year, the following applications for the control period:***

- a) *Application for approval of aggregate revenue requirement for each year of the control period and determination of tariff for the ensuing financial year.*
- b) *Application for truing up of aggregate revenue requirement for the previous financial year:*

*Provided that truing up for the financial years of the previous control period prior to the introduction of MYT framework shall be carried out under relevant Regulations applicable to the respective periods.*

*Provided further that the time limit specified for filing applications as per clause (a) and (b) above for the first year of first control period shall be the Thirty first day of December, 2014.*

- (2) *Every generating business/company or transmission business/licensee or distribution business/licensee or state load despatch centre shall file, on or before the Thirtieth day of November of every subsequent financial year during the control period, the following applications:*

- a) *Application for approval of revised aggregate revenue requirement, if any, for the ensuing financial year and determination of tariff for the ensuing financial year:*
- b) *Application for Truing up of aggregate revenue requirement for the previous financial year:*

*Provided that truing up for the financial years of the previous control period prior to the introduction of MYT framework shall be carried out under relevant Regulations applicable to the respective periods.*

- (3) *All applications shall be filed in the manner specified in the Kerala State Electricity Regulatory Commission (Conduct of Business) Regulations, 2003, as amended from time to time.*
- (4) *Failure to file the application within the stipulated time may attract the provisions of Section 142 and Section 146 of the Act.*
- (5) *In case the generation business/company or transmission business/licensee or distribution business/licensee or state load dispatch centre does not file the application under these Regulations within one month of stipulated date, the Commission may, on its own initiate proceedings for tariff determination.*
- (6) *The applicant shall submit the forecast of aggregate revenue requirement and proposal for revision of tariff, if required, for the ensuing financial year, in such manner and within such time limit as specified in these Regulations:*
- (7) *The formats for furnishing information for calculating expected revenue and expenditure and for determining tariff shall be as per Annexure-XII to these Regulations.*

- (8) *The applicant shall provide full details supporting the forecast, including but not limited to the details of past performance, proposed initiatives for achieving efficiency or productivity gains, technical studies, contractual arrangements and/or secondary research and such other details to enable the Commission to assess the reasonableness of the forecast.*
- (9) *The applicant shall develop the aggregate revenue requirement based on the data and reasonable forecast of the behaviour of individual variables that comprise the aggregate revenue requirement during the control period.*
- (10) *The applicant shall develop the forecast of expected revenue from existing tariff and charges based on the following:-*
- (a) In the case of generating business/company, estimates of generation capacity allocated to distribution business/licensees and expected electricity generation by each unit/station for each financial year of the control period;*
  - (b) In the case of transmission business/licensee, estimates of transmission capacity allocated to users of the transmission system and expected energy to be transmitted for each financial year of the control period;*
  - (c) In the case of distribution business/licensee, estimates of contracted demand and quantum of electricity to be supplied to consumers and to be wheeled on behalf of users of the distribution system for each financial year of the control period;*
  - (d) Prevailing tariffs and charges as on the date of making the application.*

4. KSEB Ltd has filed Writ Petition against the said regulation before the Hon'ble High Court of Kerala, stating that the norms for expenditure specified in the Tariff Regulations are inadequate resulting in under recovery of expenses. The petition was admitted by Hon'ble High Court as WP 465/2015 (G). Hon'ble High Court vide the interim order dated 07-01-2015 has ordered that,  
*'the tariff petition if any submitted by the petitioner KSEB Ltd shall not be rejected on the basis of Tariff Regulations, 2014'.*
5. In accordance with the provisions of the Tariff Regulations, 2014, which came into force with effect from 14.11.2014, the earlier regulations issued by the Commission for determination of tariff were repealed. Therefore the Commission sought clarification from the Hon'ble High Court on implementation of the said order. The clarification is yet to be issued by the Hon'ble High Court. Admittedly, there is no stay on the implementation of the said regulation. The ARR&ERC of all licensees other than KSEB Ltd have been approved as per the provisions of the Tariff Regulations, 2014.
6. KSEB Ltd had, on 30-03-2015, filed before the Commission, a single application for the approval of a composite ARR&ERC exclusively for the year 2015-16

without segregating the accounts for SBU (G), SBU (T) and SBU (D). The said application was not prepared and filed according to the relevant provisions of the Tariff Regulation, 2014. However, duly complying with the interim order of the Hon'ble High Court dated 07-01-2015, the Commission has not rejected the application though it is not filed as per the provisions of the Tariff Regulations, 2014. However, the Commission could not process the said application for want of clarifications from the Hon'ble High Court.

7. The Commission had, vide its orders dated 14.08.2014, 25.09.2014 and 30.09.2014 in OP No. 9/2014, determined the retail supply tariff (RST), bulk supply tariff (BST), transmission charges, wheeling charges etc. for the period till 31.03.2015. The Commission had, in view of the pendency of the order of the Hon'ble High Court dated 07.01.2015, extended the validity of the said orders till 31-03-2016, the details of which are given hereunder,-

Particulars	Date of order	Period of extension
Tariff order in OP No.9/2014	14.08.2014	16.08.2014 to 31.03.2015
	25.03.2015	01.04.2015 to 30.09.2015
	25.09.2015	01.10.2015 to 31.12.2015
	14.12.2015	01.01.2016 to 31.03.2016
BST order in OP No. 9/2014	25.09.2014	16.08.2014 to 31.03.2015
	25.03.2015	01.04.2015 to 30.09.2015
	25.09.2015	01.10.2015 to 31.12.2015
	14.12.2015	01.01.2016 to 31.03.2016
Transmission charges, wheeling charges, open access charges	30.09.2014	16.08.2014 to 31.03.2015
	25.03.2015	01.04.2015 to 30.09.2015
	25.09.2015	01.10.2015 to 31.12.2015
	14.12.2015	01.01.2016 to 31.03.2016

8. Though as per the provisions contained under section-64 of the Electricity Act-2003 and Tariff Regulation, 2014, KSEB Ltd has to file the application for the approval of aggregate revenue requirements for the years 2016-17 and 2017-18, and determination of tariff for the year 2016-17, on or before 30<sup>th</sup> November 2015, KSEB Ltd had not submitted the same till 30<sup>th</sup> March-2016. Hence, the Commission vide the letter dated 31-03-2016 communicated to the KSEB Ltd that, it has not filed any application for the approval of the aggregate revenue requirement and for determination of tariff for the year 2016-17 and that the validity of the tariff orders dated 14-08-2014 and 30-09-2014 in OP No. 9/2014 applicable to KSEB Ltd would expire on 31-03-2016. The Commission also directed KSEB Ltd to take appropriate action.

9. In response to the letter of the Commission dated 31-03-2016, KSEB Ltd vide its letter dated 04-04-2016, filed a petition for the extension of the validity of the tariff order dated 14-08-2014, 25-09-2014 and 30-09-2014 in OP No. 9/2014 till 30-09-2016 or the date of effect of the new tariff order pertaining to the financial year 2016-17, whichever is earlier. KSEB Ltd has not so far filed any proper application for approval of aggregate revenue requirement and determination of tariff with relevant facts and figures as specified in the Tariff Regulations, 2014.
10. KSEB Ltd has already implemented the order dated 14.08.2014, 25.09.2014 and 30.09.2014 in OP No. 9/2014 and realized revenue as per the revised tariff. The said tariff order was finalized duly considering the higher cost of power purchase and other relevant factors prevailing at that time.
11. It has been noticed by the Commission, that the cost of power purchase has been decreasing in view of surplus power available in the market. Further KSEB Ltd must also have attained efficiency gains based on the directives issued by the Commission from time to time. It would not be appropriate for the Commission to fix the tariff applicable to 2016-17 without considering any relevant facts.
12. The Commission is duty bound to initiate suo-motu proceedings on determination of tariff, in the absence of filing the application for the approval of aggregate revenue requirement and determination of tariff for the year 2016-17 by KSEB Ltd. In this matter, the paragraph 8.1.7 of the National Tariff Policy 2016 notified by the Central Government stipulates as follows.

*“7) Appropriate Commissions should initiate tariff determination and regulatory scrutiny on a suo moto basis in case the licensee does not initiate filings in time. It is desirable that requisite tariff changes come into effect from the date of commencement of each financial year and any gap on account of delay in filing should be on account of licensee.”*
13. Hon’ble APTEL has, vide its judgment dated 11-11-2011 in OP No. 1/2011, directed the State Commissions that,
  - (i) *Every State Commission has to ensure that Annual Performance Review, true-up of past expenses and Annual Revenue Requirement and tariff determination is conducted year to year basis as per the time schedule specified in the Regulations.*
  - (ii) *It should be the endeavour of every State Commission to ensure that the tariff for the financial year is decided before 1st April of the tariff year. For example, the ARR & tariff for the financial year 2011-12 should be decided before 1st*

*April, 2011. The State Commission could consider making the tariff applicable only till the end of the financial year so that the licensees remain vigilant to follow the time schedule for filing of the application for determination of ARR/tariff.*

- (iii) In the event of delay in filing of the ARR, truingup and Annual Performance Review, one month beyond the scheduled date of submission of the petition, the State Commission must initiate suo-moto proceedings for tariff determination in accordance with Section 64 of the Act read with clause 8.1 (7) of the Tariff Policy.*
- (iv) In determination of ARR/tariff, the revenue gaps ought not to be left and Regulatory Asset should not be created as a matter of course except where it is justifiable, in accordance with the Tariff Policy and the Regulations. The recovery of the Regulatory Asset should be time bound and within a period not exceeding three years at the most and preferably within Control Period. Carrying cost of the Regulatory Asset should be allowed to the utilities in the ARR of the year in which the Regulatory Assets are created to avoid problem of cash flow to the distribution licensee.*
- (v) Truing up should be carried out regularly and preferably every year. For example, truing up for the financial year 2009-10 should be carried out along with the ARR and tariff determination for the financial year 2011-12.*
- (vi) Fuel and Power Purchase cost is a major expense of the distribution Company which is uncontrollable. Every State Commission must have in place a mechanism for Fuel and Power Purchase cost in terms of Section 62 (4) of the Act. The Fuel and Power Purchase cost adjustment should preferably be on monthly basis on the lines of the Central Commission's Regulations for the generating companies but in no case exceeding a quarter. Any State Commission which does not already have such formula/mechanism in place must within 6 months of the date of this order must put in place such formula/mechanism.*

14. The Commission therefore, in exercise of the powers conferred on it under Section 61, Section 62 and Section 64 of the Electricity Act, 2003, read with the provisions of Tariff Regulations, 2014, and other powers enabling it in this behalf and in compliance of the order dated 11.11.2011 of the Hon'ble APTEL in OP No. 1/2011, proposes to determine the tariff suo motu, in accordance with the principles and procedures as specified in the Tariff Regulations, 2014.
15. Based on the information available, the Commission has provisionally assessed the aggregate revenue requirements and expected revenue from charges of the SBU-G, SBU-T and SBU-D of KSEB Ltd for the years 2016-17 and 2017-18 as follows.

Provisional assessment of ARR of SBU-G, SBU-T and SBU-D of KSEB  
Ltd for the years 2016-17 and 2017-18

Particulars	2016-17				2017-18			
	SBU-G (Rs.)	SBU-T (Rs.)	SBU-D (Rs. Cr)	Total (Rs. Cr)	SBU-G (Rs.)	SBU-T (Rs.)	SBU-D (Rs. Cr)	Total (Rs. Cr)
Power Purchase			6700.33	6700.33			7098.57	7098.57
Interest & Finance	177.85	256.49	1154.51	1588.85	178.30	257.43	1175.47	1611.20
Depreciation	172.43	184.25	58.12	414.80	172.43	184.25	58.12	414.80
O&M expenses	72.07	176.89	1376.76	1625.72	76.28	190.18	1491.04	1757.50
RoE	90.38	96.57	30.47	217.42	90.38	96.57	30.47	217.42
Total ARR	512.73	714.20	9320.20	10547.12	517.39	728.43	9853.68	11099.49
Less Non tariff Income			431.00	431.00			439.00	439.00
Net ARR	512.73	714.20	8889.20	10116.12	517.39	728.43	9414.68	10660.49
Revenue from Tariff				10690.87				11260.88
Revenue surplus				574.74				600.39

16. The determinants provisionally assessed by the Commission for estimating the ARR&ERC of the Strategic Business Units (SBU- Generation, Transmission and Distribution) of KSEB Ltd for the years 2016-17 and 2017-18 of ARR is detailed in Annexure-1.
17. KSEB Ltd has filed an application for truing up of its accounts for the year 2011-12 before the Commission on 19-11-2014, with a revenue gap of Rs 1934.13 crore. The abstract of the said application dated 19.11.2014 is appended as **Annexure-2**. Further, KSEB Ltd has also filed the application for truing up of its accounts for the year 2012-13 before the Commission on 21-04-2015, with a revenue gap of Rs 3998.89 crore. The abstract of the said application dated 21.04.2015 is appended as **Annexure-3**. The details of applications for truing up of accounts are available in the website of the Commission and of KSEB Ltd. The Commission has scheduled to hear the said applications on 12-07-2016. The KSEB Ltd has to file the applications for truing up of its accounts relating to 2013-14 and 2014-15. The revenue surplus / gap, if any, determined in the process of truing up of accounts of KSEB Ltd for the previous years would also be considered while determining tariff for the year 2016-17.
18. The Commission will take the appropriate decision on the determination of tariff for the year 2016-17, after finalizing the revenue surplus/ gap for the year 2016-17 and adjusting the same against the revenue surplus/gap if any, determined in the process of truing up of accounts of KSEB Ltd. A provisional tariff will be published by the Commission based on the above figures and finalized after duly considering the objections and suggestions of the consumers and other stakeholders.



19. The Commission, therefore proposes to conduct a public hearing on the proposal for the suo motu determination of tariff at 11 a.m. on 27.07.2016 at Court Hall of the Commission at KPFC Bhavanam, C.V. Raman Pillai Road, Vellayambalam, Thiruvananthapuram- 695 010. Any person who intends to file objections/ suggestions on the above proposal, may file the same with the Secretary, KSERC in the above address so as to reach by 22.07.2016.

By Order of the Commission

Secretary

### Annexure-1

#### Determinants provisionally assessed by the Commission for estimating the ARR&ERC of the Strategic Business Units (SBU- Generation, Transmission and Distribution) of KSEB Ltd for the years 2016-17 and 2017-18

##### Energy Demand

1. The annual energy demand of the Kerala State for the period from 2010-11 to 2015-16 and the projected demand for the years 2016-17 and 2017-18 is detailed below.

Table-1. Annual energy demand

Year	Energy demand		Remarks
	(MU)	(%) increase over previous year	
2010-11	17337		Actuals
2011-12	18946	9.28	
2012-13	19880	4.93	
2013-14	20525	3.24	
2014-15	21572	5.10	
2015-16	22680	5.14	
CAGR		5.52	
2016-17	23814	5.00	Projection
2017-18	25005	5.00	

Commission has adopted the annual growth rate at 5.00% for arriving the energy demand for the years 2016-17 and 2017-18.

##### T&D loss

2. The T&D loss achieved by the licensee for the period from 2010-11 to 2015-16 and the target proposed for the years 2016-17 and 2017-18 is detailed below.

Table-2. T&D loss reduction

Year	T&D loss (%)	(%) reduction over previous year	Remarks
2010-11	16.09		
2011-12	15.65	0.44	Actuals reported
2012-13	15.30	0.35	
2013-14	14.96	0.34	
2014-15	14.58	0.38	
2015-16	14.28	0.30	
2016-17	13.98	0.30	
2017-18	13.73	0.25	

##### Annual energy sale

3. Based on the annual energy demand projected and T&D loss reduction target proposed, the annual energy sales estimated for the years 2016-17 and 2017-18

is detailed below.

Table-3. Annual Energy sale

Year	Energy sale		Remarks
	(MU)	(%) increase over previous year	
2010-11	14548		Actuals
2011-12	15981	9.85	
2012-13	16838	5.36	
2013-14	17454	3.66	
2014-15	18426	5.57	
2015-16	19440	5.51	
CAGR		5.97	
2016-17	20484	5.37	Projection
2017-18	21571	5.31	

**Category wise energy sale**

4. The category wise energy sale of different categories of consumers during the period from 2009-10 to 2013-14 and the projection for the years 2016-17 and 2017-18 is detailed below.

Table-4. Category wise energy sale

Category	2009-10	2010-11	2011-12	2012-13	2013-14	CAGR	2014-15	2015-16	2016-17	2017-18
<b>LT Category</b>										
Domestic	6559.0	6877.8	7705.9	8313.4	8739.5	6.4	9298.8	9880.0	10477.8	11106.4
Commercial	1793.0	1951.7	2141.2	2224.1	2229.3	7.0	2385.4	2540.4	2705.6	2881.4
Industrial	1064.0	1053.5	1097.0	1102.0	1096.6	1.7	1115.2	1134.2	1152.3	1170.7
Agricultural	257.0	231.6	286.2	306.1	310.2	5.0	325.8	342.0	358.8	376.4
Street Lights	303.0	265.7	294.3	313.2	319.1	5.0	335.0	351.8	369.0	387.1
Sub total LT	9976.0	10380.3	11524.6	12258.7	12694.7		13460.2	14248.4	15063.4	15922.1
<b>HT category</b>										
HT I Industrial	1450.0	1516.0	1595.7	1683.0	1770.7	3.0	1823.8	1878.5	1932.6	1980.9
HT II	117.0	101.7	115.8	125.5	131.9	2.0	134.5	137.2	139.8	142.5
HT IIB	0.1	0.1	0.1				0.0	0.0	0.0	0.0
HTIII -Agriculture	8.0	8.0	8.1	8.4	7.6	2.0	7.7	7.9	8.0	8.2
HT IV- Commercial	693.0	756.2	866.6	870.8	881.5	8.0	952.0	1028.2	1109.4	1197.1
EHT 66/110/220 KV	1149.0	1181.1	1243.1	1217.6	1243.9	2.5	1274.9	1306.8	1338.2	1370.3
Railway Traction	165.0	156.4	154.5	173.7	200.7	8.0	216.7	234.1	252.6	267.7
Bulk Supply	413.0	448.1	472.1	500.8	523.2	7.0	559.8	599.0	639.7	683.8
Sub total HT	3995.1	4167.6	4456.0	4579.6	4759.3		4969.5	5191.7	5420.3	5650.5
<b>Total</b>	<b>13971.1</b>	<b>14547.9</b>	<b>15980.5</b>	<b>16838.2</b>	<b>17454.0</b>		18429.7	19440.1	20483.8	21572.6

## Revenue from Tariff

5. The Commission vide the order dated 14-08-2014 has revised the retail tariff of all categories of consumers in the State. The Bulk Supply Tariff (BST) applicable to small licensees was revised vide the order dated 25-09-2014. At the prevailing tariff, the revenue from sale of power estimated for the years 2016-17 and 2017-18 and the details are given below.

**Table-5**  
**Revenue at existing tariff**

Category	2016-17		2017-18	
	Energy sale (MU)	Revenue at existing tariff (Rs.Cr)	Energy sale (MU)	Revenue at existing tariff (Rs.Cr)
<b>LT Category</b>				
Domestic	10477.77	3939.64	11106.44	4176.02
Commercial	2705.57	2245.63	2881.44	2391.59
Industrial	1152.31	686.77	1170.74	697.76
Agricultural	358.80	85.75	376.38	89.95
Street Lights	369.00	138.38	387.08	145.16
Sub total LT	15063.45	7096.17	15922.08	7500.49
<b>HT category</b>				
HT I Industrial	1932.61	1178.89	1980.93	1208.37
HT II Non Industrial Non Commercial	139.81	132.82	142.47	135.35
HTIII -Agriculture	8.01	3.85	8.17	3.92
HT IV- Commercial	1109.43	998.49	1197.08	1089.34
EHT 66/110/220 KV	1338.18	756.07	1370.30	774.22
Railway Traction	252.58	145.23	267.73	153.95
Bulk Supply	639.68	379.33	683.82	395.25
Sub total HT	5420.32	3594.69	5650.50	3760.39
<b>Total</b>	<b>20483.77</b>	<b>10690.87</b>	<b>21572.57</b>	<b>11260.88</b>

## **Non-tariff Income**

6. The non-tariff income estimated for the years 2016-17 and 2017-18 based on the past actual and the details are given bellow.

Table-6. Non tariff Income

	2016-17	2017-18
	(Rs. Cr)	(Rs. Cr)
Meter rent	93	95
Testing fee, penalty etc, meter box etc	70	72
Interest from banks	60	60
Rebate	98	100
Income from sale of scrap	40	42
Miscellaneous receipt	70	70
Total	431	439

### **Cost of Generation and Power Purchase**

7. The energy availability, and the cost of generation & power purchase for the years 2016-17 and 2017-18 is estimated based on the following assumptions.

(i) Hydel energy.

- The total hydel capacity owned and operated by KSEB Ltd is about 2020 MW.
- As per the details available with the Commission, the total design energy of the hydel stations installed in the State is about 7000MU annually.
- In the absence of more reliable data, the Commission has adopted the annual energy availability from hydel stations at 7000 MU for the years 2016-17 and 2017-18.
- Since the O&M cost of hydel stations are accounted separately, the cost of generation of hydel stations are accounted under the ARR of the SBU- Generation.

(ii) Energy availability from Central Generating Stations.

- Total capacity allocation from the CGS to the Kerala State is about 1470 MW.
- The average daily energy availability from CGS at the State periphery is about 30 MU/day.
- The annual energy availability from CGS is estimated 11050 MU for the years 2016-17 and 2017-18.
- The average cost of generation of power from CGS at the State periphery is about Rs 3.38 per unit for the year 2015-16.

- The cost of generation from CGS for the year 2016-17 is estimated at Rs 3.44 per unit and the same for the year 2017-18 is estimated at Rs 3.50 per unit at an annual escalation of 2% over previous years.
- Accordingly, the cost of generation from CGS for the year 2016-17 is estimated at Rs 3801.20 crore and the same for the year 2017-18 is estimated at Rs 3867.50 crore.

### (iii) Energy availability from traders

The energy availability and cost of power purchase through traders for the years 2016-17 and 2017-18 is estimated based on the approval granted by the Commission / pending approval before the Commission for the purchase of power through traders/ generators. The details are given below.

Table-7. Cost of power purchase through traders

	Capacity contracted (MW)	Daily Energy availability (MU/day)	2016-17			2017-18		
			Quantity (MU)	Rate (Rs/ kWh)	Amount (Rs. Cr)	Quantity (MU)	Rate (Rs/ kWh)	Amount (Rs. Cr)
PTC <sup>1</sup>	300	5.94	325.91	5.43	176.97			
Traders								
Case-1 MTOA <sup>2</sup>	397	5.72	1806.41	4.50	812.89			
Maithon-1	150	2.97	975.05	3.73	363.70	1083.39	404.11	3.73
Maithon-2	122	2.41	673.90	3.73	251.36	881.16	328.67	3.73
DVC	100	1.98	722.26	4.11	296.85	722.26	296.85	4.11
Jindal	165	3.27	992.57	3.60	357.32			
DBFOO	315	6.23		3.83	0.00	2275.13	871.37	3.83
Short term	200	4.08	126.48	3.08	38.96	224.22	69.06	3.08
DBFOO	550	10.88		4.29	0.00	1628.39	698.58	4.29
Total			5622.58		2298.04	6814.56	2668.64	

<sup>1</sup> Contract with PTC for procuring 300MW RTC power expire by 31-5-2016

<sup>2</sup> PTC-100 MW, NVVN Ltd 297 MW, contracts will expire by February 2017

### (iv) Energy availability through Renewable IPPs .

As per the details available to the Commission, the total annual energy availability from Wind IPPs-33.675MW, SHPs- Ullumkal 7MW, Karikkayam- 10.5MW, Iruttukkanam- stage-1 & 2 - 4.5MW, and Meenvallom 2 MW is

about 142MU and the average cost of power purchase at the approved tariff is Rs 3.24 per unit.

Table-8. Energy availability from Renewable IPPs

Particulars	Annual energy availability (MU)	Avg. tariff
WIND	65.00	3.14
Ullunkal	19.44	2.44
Iruttukanam Stage-I	18.00	2.7
Iruttukanam Stage-II	6.00	2.7
Karikkayam HEP	28.00	4.16
Meenvallom	5.56	4.88
Total	142.00	3.24

(v) Energy procurement from liquid fuel stations BDPP, KDPP, RGCCPP Kayamkulam and BSES

- Since the entire electricity requirement of the State can be met through the energy availability from Hydel, CGS, and power purchase through generators/traders etc as detailed under Table-7 above, the Commission does not anticipate energy procurement from liquid fuel stations including BDPP and KDPP during the financial years 2016-17 and 2017-18.
- The PPA with BKPL expired on 31-10-2015. Hence, there is no fixed charge commitments for BKPL for the years 2016-17 and 2017-18.
- Commission is of the view that, considering the energy availability through generators/ traders outside the State at most competitive rates, there is no need to continue with the PPA of RGCCPP Kayamkulam. Hence, Commission has not proposed any fixed charge commitments for RGCCPP Kayamkulam during the years 2016-17 and 2017-18.

(vi) Inter-state transmission charges payable to PGCIL

The average POC transmission charges payable to PGCIL for transmitting power from various CGS and also from Generators (other than the sources of power contracted on DBFOO basis) is about Rs 0.37 per unit. The annual inter state transmission charges payable to PGCIL is about Rs 555.23 crore for the 2016-17 and the same for the year 2017-18 is about Rs 516.56 crore.

(vii) Summary of the cost of Generation and Power Purchase

The summary of the cost of generation and power purchase for the years 2016-17 and 2017-18 is detailed below.

Table-9 Cost of power purchase for the year 2016-17 and 2017-18

Sl No	Particulars	2015-16			2016-17			2017-18		
		Quantity	Amount	Avg. Rate	Quantity	Amount	Avg. Rate	Quantity	Amount	Avg. Rate
		(MU)	(Rs. Cr)	(Rs/kWh)	(MU)	(Rs. Cr)	(Rs/kWh)	(MU)	(Rs. Cr)	(Rs/kWh)
1	Hydel	6640.0			7000.00			7000.00		
2	BDPP+KDPP	152.9	127.4	8.34						
3	CGS	11042.0	3735.3	3.4	11050.00	3801.20	3.44	11050.00	3867.50	3.50
4	RGCCPP	138.9	316.7	22.81					0.00	
5	BSES		42.0							
5	IPP- wind and SHPs	142.4	45.3	3.18	142.00	45.87	3.23	142.00	45.87	3.23
6	UI	688.5	135.6	1.97						
7	IEX+ PXIL	650.3	274.0	4.21						
8	Traders	3225.1	1393.8	4.32	5622.58	2298.04	4.09	6814.56	2668.64	3.92
9	Transmission charges <sup>1</sup>		530.6			555.23			516.56	
	Total	22680.0	6600.8		23814.58	6700.33		25006.56	7098.57	

<sup>1</sup> Inter-state transmission charges payable to PGCIL

### Operation and Maintenance Expense

#### 8. O& M cost for Generation

- (i) The O&M expenses for the existing generating stations of KSEB Ltd was specified under Annexure-VII to Tariff Regulations, 2014, which is extracted below for ready reference.

**O&M norms for existing generating stations of generation business of KSEB Limited**

Particulars (Rs. Crore)	FY 2015-16	FY 2016-17	FY 2017-18
Employee expenses	45.01	47.65	50.43
Repair & maintenance expenses	18.73	19.83	20.99
Administrative & general expenses	4.34	4.59	4.86
Total	68.08	72.07	76.28



- (ii) Since KSEB Ltd has not submitted the details of the new generating stations commissioned after notifying the Tariff Regulation, 2014, the Commission is not in a position to allow O&M cost for SBU-generation over and above the same specified under Annexure-VII to Tariff Regulation 2014.

9. O&M cost for SBU- Transmission

- (i) The O&M costs for the SBU transmission is specified under Annexure-VIII to Tariff Regulations, 2014, which is extracted below.

**O&M norms for the transmission business of KSEB Limited and transmission licensee**

Particulars	FY 2015-16	FY 2016-17	FY 2017-18
O&M expenses per bay (Rs. lakh)	5.23	5.54	5.86
O&M expenses per ckt km (Rs. lakh)	0.58	0.61	0.65

**Explanation:** The O&M expenses for any year of the control period shall be allowed by multiplying the O&M norms for that year with the actual number of bays and transmission line length in ckt km for the previous year, i.e., the O&M expenses for FY 2015-16 shall be allowed by multiplying the O&M norms for FY 2015-16 with the actual number of bays and transmission line length in ckt km for FY 2014-15.

- (ii) The details of the number bays and line length of transmission system of KSEB Ltd is extracted below.

Table-10. Number of bays and line length of SBU- Transmission of KSEBL

Year	Bays (Nos)	Line (Ckt-
2010-11	1994	9047
2011-12	2016	9048
2012-13	2028	9107
2013-14	2056	9139
2014-15	2085	9267
2015-16	2114	9396
2016-17	2144	9528
2017-18	2174	9661

- (iii) The O&M cost of Transmission is estimated based on the provisional details on number bays and line lengths of transmission system of KSEB Ltd and the details are given below.

Table-11. O&M cost- Transmission SBU

Particulars	2016-17	2017-18
O&M expenses Transmission (Rs.Cr)	176.89	190.18

10. O&M cost- SBU - Distribution

- (i) The O&M norms for distribution business of KSEB Ltd is specified under Annexure-IX to Tariff Regulation-2014, which is extracted below

Table -1 : O&M norms for distribution business of KSEB Ltd.

O&M Expenses	FY 2015-16	FY 2016-17	FY 2017-18
<b>Employee expenses</b>			
Rs. lakh / '000 consumers	2.40	2.54	2.69
Rs. lakh / distribution transformer	0.33	0.35	0.37
Rs. lakh per km of HT lines	0.40	0.42	0.44
Rs. / unit of sales	0.10	0.11	0.11
<b>A&amp;G expenses</b>			
Rs. Lakh / '000 consumers	0.21	0.22	0.23
Rs. lakh / distribution transformer	0.03	0.04	0.03
Rs. lakh per km of HT lines	0.03	0.04	0.04
Rs. / unit of sales	0.01	0.01	0.01
<b>R&amp;M expenses</b>			
% of opening GFA	3%	3%	3%

Explanation : The O&M expenses for any year of the control period shall be allowed by multiplying the O&M norms for that year with the actual number of consumers, distribution transformers, km of HT line and sales for the previous year, i.e., the O&M expenses for FY 2015-16 shall be allowed by multiplying the O&M norms for FY 2015-16 with the actual number of consumers, distribution transformers, km of HT line and sales for FY 2014-15.

- (ii) The growth of the distribution parameters related to the estimation of normative employee cost and A&G expenses is detailed below.

Table-12. Growth of distribution parameters related to the estimation of normative employee cost and A&G expenses

Year	No.of consumers	Dist transformers	HT Line length	Sales	Remarks
	(Nos)	(Nos)	(km)	(MU)	
2008-09	9363461	46359	41283	12414	Actuals
2009-10	9743476	52149	44682	13971	
2010-11	10127946	57954	48342	14548	
2011-12	10457637	62329	51328	15981	
2012-13	10806890	64972	52907	16838	
2013-14	11192890	68172	56641	17454	
CAGR	3.63%	8.02%	6.53%	7.05%	
2014-15	11542890	70172	60340	18426	Projection
2015-16	11892890	72172	64280	19440	
2016-17	12242890	74372	68477	20484	
2017-18	12592890	76572	72949	21571	
CAGR from 2014-15 to 2017-18	2.94%	2.95%	6.53%	5.39%	

- (iii) Based on the above, the normative employee cost estimated for the years 2016-17 and 2017-18 is detailed below.

Table-13. Normative employee cost for the years 2016-17 and 2017-18 (Rs.Cr)

Particulars	2016-17	2017-18
Based on number of consumer	310.97	338.75
Based on Dist transformer	260.30	283.32
Based on HT line	287.60	320.98
Based on energy sale	225.32	237.28
Total	1084.20	1180.32

- (iv) The A&G expenses estimated based on the O&M parameters as per Table-12 above for the years 2016-17 and 2017-18 is detailed below.

Table-14. Normative A&G expenses for the years 2016-17 and 2017-18

A&G expenses (Rs.Cr)	2016-17	2017-18
Based on number of consumer	26.93	28.96
Based on Dist transformer	22.31	22.97
Based on HT line	27.39	29.18
Based on energy sale	20.48	21.57
Total	97.12	102.69

- (v) The normative R&M cost as per the Tariff Regulation 2014 is @3% of the GFA at the beginning of the year concerned. Since KSEB Ltd has not submitted the GFA at the beginning of the years 2016-17 and 2017-18, the Commission had estimated the same based on the following details and assumptions.

Table-15. Estimation of GFA at the beginning of the years 2016-17 and 2017-18

	Amount (Rs.Cr)	
GFA of distribution as on 31-10-2013 (Rs. Cr)	5403.00	
Additions		
2013-14 (42% of 519) from 01-11-2013 to 31-03-2014	217.98	Total GFA addition- Rs 519 cr
GFA as on 31-03-2014 (Rs. Cr)	5620.98	
GFA addition 2014-15 (42% 1128)	473.76	Total GFA addition- Rs 1128 cr
GFA as on 31-03-2015 (Rs. Cr)	6094.74	
GFA addition during the year 2015-16 (42% of Rs 1000.00 cr)	420.00	Assuming GFA addition during the year 2015-16 as Rs 1000 cr
GFA as on 31-03-2016	6514.74	Assuming GFA addition as Rs 1000 cr
GFA addition during the year 2016-17 (42% of Rs 1000.00 cr)	420.00	Assuming GFA addition during the year 2016-17 as Rs 1000 cr
GFA as on 31-03-2017	6934.74	

- (vi) Based on the GFA estimated for the years 2016-17 and 2017-18 as above, the R&M cost estimated for the years 2016-17 and 2017-18 is detailed below.

Table-16. Normative R&M cost for the years 2016-17 & 2017-18

	2016-17	2017-18
GFA (dist) at the beginning of the year (Rs. Cr)	6514.74	6934.74
R&M expense- norm	3% of opening GFA	
R&M expense (Rs.Cr)	195.44	208.04

- (vii) Summary of the O&M expenses estimated for Distribution business of KSEB Ltd is summarized below.

Table-17. Summary of the O&M cost estimated for SBU-Distribution of KSEB Ltd

	2016-17	2017-18
Total O&M expense - distribution		
Employee cost (Rs.Cr)	1084.20	1180.32
A&G expense (Rs. Cr)	97.12	102.69
R&M expense (Rs. Cr)	195.44	208.04
Total (Rs. Cr)	1376.76	1491.04

11. As detailed under paragraph 15, 16 and 17 above, the summary of the O&M cost for SBU-Generation, SBU-Transmission and SBU- Distribution for the FY 2016-17 and 2017-18 is detailed below.

Table-18. Summary of the O&M cost approved for SBU-G, SBU-T and SBU-D of KSEB Ltd for the years 2016-17 and 2017-18

O&M expenses (Rs. Cr)			
	2016-17	2017-18	Remarks
Generation	72.07	76.28	as per norms
Transmission	176.89	190.18	as per norms- details given under Table-11 above.
Distribution	1376.76	1491.04	as per norms- details given under Table-13 above.
Total	1625.72	1757.50	

12. Interest and Finance Charges

In the absence of the details of the outstanding loans etc, the interest and finance charges were estimated based on the following assumptions.

- (i) The total outstanding loans as on 31-03-2016 is taken as Rs 4200.00 crore and the interest & finance charges estimated @11% interest rate.
- (ii) Interest on additional borrowings are not considered.
- (iii) Outstanding Security deposit as on 01-04-2016 is taken as Rs 2145 crore and the same on 01-04-2017 is taken as Rs 2315.00 crore.
- (iv) Interest rate for providing interest on security deposit is taken at 8%.
- (v) Outstanding GPF as on 01-04-2016 is taken as Rs 1500.00 crore and the same as on 01-04-2017 is taken as Rs 1600.00 crore and the interest on GPF is provided at 8.75%.

- (vi) Interest on bonds issued to Master Trust- Rs 814.00 crore, based on the G.O(P) No. 2/2015/PD dated 28<sup>th</sup> January 2015.

The total interest and finance charges estimated for the years 2016-17 and 2017-18 is detailed below.

Table-19. Interest and finance charges estimated for the years 2016-17 and 2017-18

Sl No	Particulars	2016-17	2017-18	Remarks
		(Rs. Cr)	(Rs. Cr)	
1	Interest for long term capital liabilities (taken as Rs 4200 Cr as on 01-04-2016) @11%	462.00	462.00	Interest for additional borrowings for the years 2016-17 and 2017-18 are not considered
2	Interest on security deposit	171.60	185.20	Outstanding security deposits- Rs 2145 cr as on 01-04-2016 and Rs 2315 cr as on 01-04-2017
3	Interest on GPF @8.75%	131.25	140.00	Outstanding GPF as on 01-04-2016 - Rs 1500.00 cr, as on 01-04-2017 - Rs 1600.00 cr, interest @8.75%
4	Others	10.00	10.00	
	Interest on bonds issued to Master trust	814.00	814.00	Vide the G.O(P) No. 2/2015/ PD dated 28th Jan 2015, KSEB L bond - Rs 8144 crore @10% interest
	Total interest and finance charges (Rs.Cr)	1588.85	1611.20	

Since the outstanding security deposit is more than the working capital requirements as per the Regulation-33 of the Tariff Regulation, 2014, the Commission is not in a position to approve any additional working capital requirements and interest on the same.

13. Return on equity (RoE)

RoE allowed @14% on the original Government equity of Rs 1553.00 crore.

14. Depreciation

In the absence of assets wise details for estimating the depreciation, the Commission may allow the depreciation provisionally as Rs 414.00 crore, at the same level approved by the Commission for the year 2014-15 vide the order dated 14-8-2014.

15. The summary of the ARR&ERC provisionally estimated by the Commission for the years 2016-17 and 2017-18 is detailed below.

Table-20. Summary of the ARR&ERC of KSEB Ltd for the years 2016-17 and 2017-18.

Particulars	2016-17 (Rs. Cr)	2017-18 (Rs. Cr)	Remarks
Power Purchase	6700.33	7098.57	
Interest & Finance charges	1588.85	1611.20	Including interest on bonds issued to master trust
Depreciation	414.80	414.80	At the same level approved by the Commission for the year 2014-15
O&M expenses	1625.72	1757.50	
RoE	217.42	217.42	ROE @14% of original Government equity of Rs 1553 cr
Total ARR	10547.12	11099.49	
Less Non tariff Income	431.00	439.00	
Net ARR	10116.12	10660.49	
Revenue from Tariff	10690.87	11260.88	
Revenue surplus	574.74	600.39	

16. Function wise allocation of the ARR of KSEB Ltd, among SBU-G, SBU-T and SBU-D of KSEB Ltd.

- (i) The summary of the ARR&ERC of KSEB Ltd as estimated as above may be apportioned among the SBU- Generation, SBU-Transmission and SBU-Distribution as per the following methodologies/ assumption.

Table-21. Assumptions of segregation of expense among SBU-G, SBU-T and SBU-D

	Particulars	SBU-G	SBU-T	SBU-D
1	Depreciation			
2	RoE	Opening GFA	Opening GFA	Opening GFA excluding Consumer contribution
3	Interest & Finance charges			
	(i) Interest on outstanding capital liabilities	Opening NFA	Opening NFA	Opening NFA
	(ii) Interest on security deposit	Nil	Nil	100% SBU-D
	(iii) Interest on GPF and interest on bond	Employee ratio among each SBU		
		5.15% of total	10.70% of total	84.15% of total
4	Cost of Power Purchase	Nil	Nil	100% SBU-D
5	O&M costs	As per norms		

- (ii) Based on the above, the provisional ARR of the SBU-Generation, SBU-Transmission and SBU- Distribution of KSEB Ltd for the years 2016-17 and 2017-18 is apportioned from the total ARR, as detailed below.

Table-22. Function wise allocation of ARR of KSEB Ltd among SBU-G, SBU-T and SBU-D for the years 2016-17 and 2017-18

Particulars	2016-17				2017-18			
	SBU-G (Rs. Cr)	SBU-T (Rs. Cr)	SBU-D (Rs. Cr)	Total (Rs. Cr)	SBU-G (Rs. Cr)	SBU-T (Rs. Cr)	SBU-D (Rs. Cr)	Total (Rs. Cr)
Power Purchase			6700.33	6700.33			7098.57	7098.57
Interest & Finance charges	177.85	256.49	1154.51	1588.85	178.30	257.43	1175.47	1611.20
Depreciation	172.43	184.25	58.12	414.80	172.43	184.25	58.12	414.80
O&M expenses	72.07	176.89	1376.76	1625.72	76.28	190.18	1491.04	1757.50
RoE	90.38	96.57	30.47	217.42	90.38	96.57	30.47	217.42
Total ARR	512.73	714.20	9320.20	10547.12	517.39	728.43	9853.68	11099.49
Less Non tariff Income			431.00	431.00			439.00	439.00
Net ARR	512.73	714.20	8889.20	10116.12	517.39	728.43	9414.68	10660.49
Revenue from Tariff				10690.87				11260.88
Revenue surplus				574.74				600.39



**Annexure-2**  
**Summary of the Truing up petition for the year 2011-12**

Particulars	KSERC	KSEB	Variation
	(Order)	As per Accounts	(-) decrease/ (+) increase
	(Rs. Cr)	(Rs. Cr)	(Rs. Cr)
Generation Of Power	264.58	281.65	17.07
Purchase of power	3660.67	4375.31	714.64
Interest & Finance Charges	265.26	340.52	75.26
Depreciation	548.37	466.00	-82.37
Employee Cost	1582.11	1903.33	321.22
Repair & Maintenance	185.00	251.70	66.70
Administration & General Expenses	85.74	202.72	116.98
Other Expenses	12.00	73.22	61.22
<b>Gross Expenditure (A)</b>	<b>6603.73</b>	<b>7894.45</b>	<b>1290.72</b>
Less : Expenses Capitalized	116.32	126.61	10.29
Less : Interest Capitalized	33.87	30.51	-3.36
<b>Net Expenditure (B)</b>	<b>6453.54</b>	<b>7737.33</b>	<b>1283.79</b>
Statutory Surplus/ Roe (C)	100.00	240.72	140.72
<b>ARR (D) = (B) + ( C)</b>	<b>6553.54</b>	<b>7978.05</b>	<b>1424.51</b>
Less Non-Tariff Income	390.36	450.86	60.50
Less : Revenue from Tariff			
(a) With in the State	5234.56	5526.39	291.83
(b) Outside the State	0.00	66.63	66.63
Revenue from subsidies and grants	0.00	0.04	0.04
<b>Total Income</b>	<b>5624.92</b>	<b>6043.92</b>	<b>419.00</b>
<b>Revenue Gap</b>	<b>928.62</b>	<b>1934.13</b>	<b>1005.51</b>

Annexure-3  
Summary of the Truing up petition for the year 2012-13

Particulars	KSERC	KSEB	Variation
	(Order)	As per audited Accounts	(-) decrease/ (+) increase
Generation Of Power	193.15	564.99	371.84
Purchase of power	5008.49	7199.61	2191.12
Interest & Finance Charges	370.19	580.53	210.34
Depreciation	414.62	509.31	94.69
Employee Cost	1663.66	2103.03	439.37
Repair & Maintenance	195.95	251.55	55.60
Administration & General Expenses	86.11	202.43	116.32
Other Expenses	18.50	272.73	254.23
Gross Expenditure (A)	<b>7950.67</b>	<b>11684.18</b>	<b>3733.51</b>
Less : Expenses Capitalized	134.60	150.74	16.14
Less : Interest Capitalized	47.09	116.06	68.97
Net Expenditure (B)	<b>7768.98</b>	<b>11417.38</b>	<b>3648.40</b>
Statutory Surplus/ Roe (C)	217.42	240.72	23.30
ARR (D) = (B) + ( C)	<b>7986.40</b>	<b>11658.10</b>	<b>3671.70</b>
Less Non-Tariff Income	386.14	435.82	49.68
Less : Revenue from Tariff	5711.10	7223.39	1512.29
Total Income	6097.24	7659.21	1561.97
Revenue Gap	<b>1889.16</b>	<b>3998.89</b>	<b>2109.73</b>