BEFORE THE HON'BLE KERALA STATE ELECTRICITY REGULATORY COMMISSION, THIRUVANATHAPURAM

Reg. No. ER.772/86

IN THE MATTER OF:

Petition for Approval of ARR, ERC, Tariff Proposal & Capital Investment Plan for Control Period 2018-22

OBJECTIONS FILED BY:

The Kerala High Tension and Extra High Tension Industrial Electricity Consumers' Association,
Productivity House, Jawaharlal Nehru Road,
Kalamassery 683104, Ernakulam district.

10 December 2018

Reg. No. ER.772/86

Agenda

Regulatory Framework

Validity of Filings

Key Objections

Prayer to the Hon’ble Commission

Reg. No. ER.772/86

Regulatory Framework

Commission	Regulation
KSERC	Kerala State Electricity Regulatory Commission Terms and Conditions for Determination of Tariff Regulations, 2018
	Kerala State Electricity Regulatory Commission Terms and Conditions for Determination of Tariff Regulations, 2014
	KSERC Terms and Conditions of Tariff for Retail Sale of Electricity Regulations, 2006
	KSERC Terms and Conditions for Determination of Tariff for Distribution and Retail Sale of Electricity under MYT Framework Regulations 2006
CERC	Central Electricity Regulatory Commission Terms & Conditions of Tariff Regulations 2009
Other relevant acts	• The Electricity Act 2003. • Kerala Electricity Duty Act 1963

Reg. No. ER.772/86

Energy sales forecast

- The KSEBL has projected sales based upon the CAGR method.
- Various categories such as (HT & EHT) does not show specific trend
- Hence, the Objector has considered Y-o-Y average growth rate to project sales

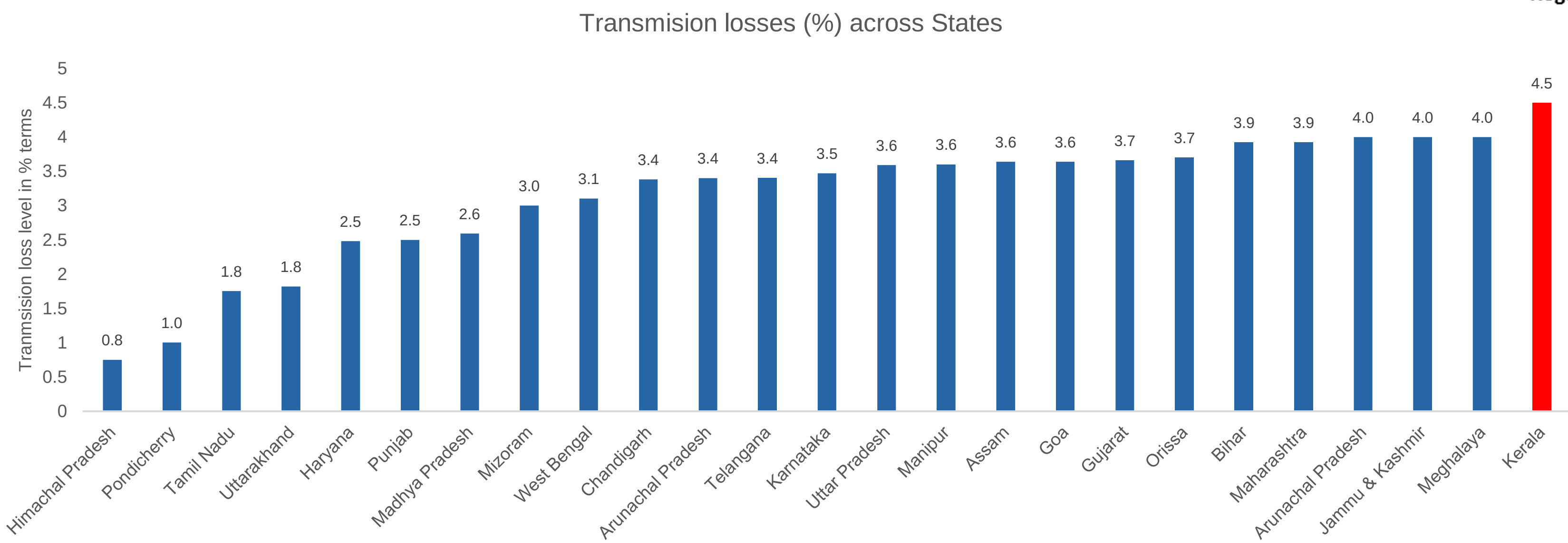
Category (MU)	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Domestic	10856.52	11195.92	11545.93	11906.88
Commercial	3168.22	3377.76	3585.15	3805.27
Industrial	1100.98	1111.99	1123.11	1134.34
Agricultural	350.02	361.28	370.24	379.44
Street Lights	380.84	396.28	412.34	429.05
LT II	4.90	4.95	5.10	5.15
LT IX	2.01	2.07	2.18	2.25
LT Total	15863.49	16450.25	17044.05	17662.39
HT I	2137.66	2256.07	2359.10	2466.84
HT II	797.91	845.68	896.31	949.97
HTIII	9.69	10.17	10.46	10.76
HT IV	671.26	705.20	740.86	778.32
HT V	15.41	16.51	17.33	18.20
HT Total	3631.93	3833.63	4024.06	4224.10
EHT I	355.56	369.22	375.75	382.38
EHT II	748.67	762.37	776.32	790.53
EHT III	94.83	101.61	106.69	112.02
EHT non industrial	70.48	71.89	73.33	74.79
Railway Traction	273.51	287.19	301.55	316.63
KMRL	15.79	16.92	17.77	18.66
EHT Total	1558.84	1609.20	1651.41	1695.02
Bulk	593.03	618.70	645.48	673.43
HT & EHT Total	5783.80	6061.53	6320.95	6592.54
Total sales for the year as per Objector– (1)	**21647.29**	**22511.78**	**23365.01**	**24254.93**
Growth over previous year (%)	1.83%	3.99%	3.79%	3.81%
Total sales for the year as submitted by petition – (2)	**21647.29**	**22969.69**	**23957.28**	**24991.45**
Difference in sales as projected by the Objector and Petitioner (1-2)	***0.00***	***457.89***	***592.25***	***736.51***

Transmission & Distribution losses

- The Objector would like to highlight that in the past, the Hon’ble Commission had mostly set 0.50% as the loss reduction target in a year. **Despite setting lower loss reduction target of 0.30% for FY 2016-17, the KSEBL had not made efforts to achieve it** (loss levels of 13.93% reported during the true up of FY 17)
- KSEBL has estimated a target T&D loss reduction of 0.25% in 2018-19 and 0.4% annually thereafter owing to the significant capital expenditure proposed.
- KSEBL was able to achieve a loss reduction percentage to the extent of 0.83% in the past year.
- KSEBL has replaced/refurbished majority of the Distribution equipment during the recent floods that has left a devastating impact on Kerala**. *The new Distribution infrastructure is more efficient and it is easier to contain the losses to a greater extent.***
- 100% metering level at EHT level- Yet separate loss estimation are not carried out by KSEBL

Reg. No. ER.772/86

Transmission & Distribution losses



- The Objector proposes a loss reduction target of 0.50% in the FY 2018-19, the target for the subsequent years may be set as proposed by the Petitioner.

S No	Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
As per KSEBL						
1i	T&D loss reduction estimated		0.25%	0.4%	0.4%	0.4%
2i	T & D loss	13.07%	12.82%	12.42%	12.02%	11.62%
3i	Transmission Losses	4.50%	4.05%	3.95%	3.85%	3.75%
As per the Objector						
1ii	T&D loss reduction estimated		0.50%	0.4%	0.4%	0.4%
2ii	**T & D loss**	**13.07%**	**12.57%**	**12.17%**	**11.77%**	**11.37%**
3ii	Transmission Losses	4.50%	4.05%	3.95%	3.85%	3.75%
	Difference – (Ob-Pet)	**-**	**-0.25%**	**-0.25%**	**-0.25%**	**-0.25%**

Reg. No. ER.772/86

Energy Requirement

- The energy requirement estimation based upon the revised T&D losses as follows:-

S No	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
As per KSEBL					
1	Total energy sales projected	21647.29	22969.69	23957.28	24991.45
2	T&D Loss In %	12.82%	12.42%	12.02%	11.62%
3	Energy at IF Points in MU	24830.57	26227.10	27230.37	28277.27
4	Substation auxiliary Consumption	15.58	16.36	17.18	18.04
5i	Energy at Gen. Points in MU	24846.15	26243.46	27247.55	28295.31
As per Objector					
1	Total energy sales projected	21647.29	22511.777	23365.005	24254.93
2	T&D Loss In %	12.57%	12.17%	11.77%	11.37%
3	Energy at IF Points in MU	24758.62	25630.11	26480.93	27365.47
4	Substation auxiliary Consumption	15.58	16.36	17.18	18.04
5ii	Energy at Gen. Points in MU	24774.21	25646.47	26498.11	27383.51
	Difference – (Obj-Pet)	**(71.95)**	**(596.97)**	**(749.42)**	**(911.79)**

Reg. No. ER.772/86

Estimation of energy generation for the control period
Hydel Generation

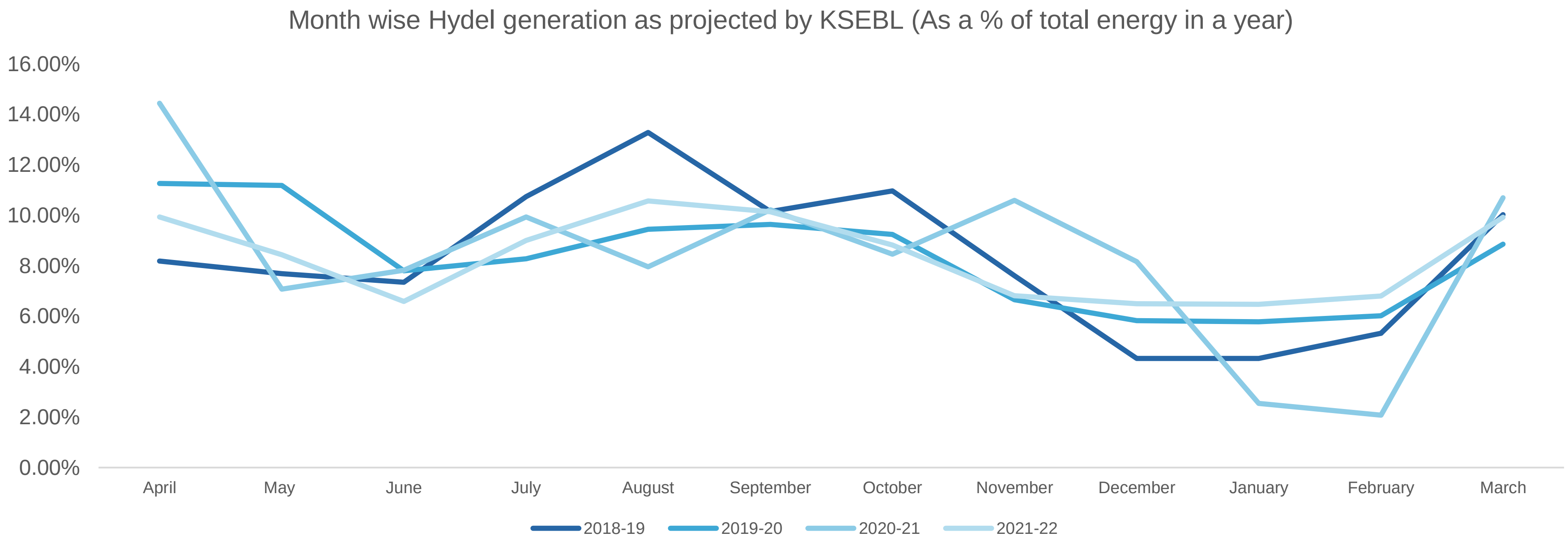
- The KSEBL has projected 7886.45 MU for FY19.
- However, the actual generation till the month of October 2018 is ~5,381 MU i.e. 68% of the projected generation of FY 19.
- The Objector has re-assessed the storage level for the year and estimated the Hydel generation for the year as 8,409.53 MU.
- Revenue corresponding to additional generation has been taken into consideration

Particular	Code	Value
Storage as on 31st Oct-18 (in MU terms)	A	3279 MU
Average inflow Nov to May (in MU terms)	B	1403 MU
Buffer Requirement (in MU terms)	C	500 MU
Hydel Generation 2018-19 as per petitioner		7886.45 MU
Hydel generation as of Oct-18	D	5381 MU
Hydel Generation Projection April-19	E	772.56 MU
Hydel generation Projection May-19	F	767.53 MU
Hydel Generation 2018-19 as per Objector	G=A+B+D-C-E-F	8022.91 MU
KSEBL Projection for 2020 & 2021 as per petition		
April 2020	H	597.52
May 2020	I	548.57
Total April- May 2020	J	1146.09
April 2021	K	625.69
May 2021	L	535.17
Total April- May 2021	M	1160.86
Average- 2020-2021	N	1153.48
	O=E+F-N	386.61
Total Hydel generation as per Objector	P=G+O	8,409.53
Difference		**523.08 MU**

Estimation of energy generation for the control period

Hydel Generation

- KSEBL has proposed erratic pattern of the hydel generation



- The hydel sources of the energy is the cheapest and lower estimation of hydro generation will result into higher power purchase requirement from external sources. This will have a significant implication on the ARR estimation.

Reg. No. ER.772/86

Renewable Purchase Obligation

- The Objector has estimated the RPO trajectory till FY 2021-22 in line with the targets set by the Hon'ble Commission during FY 2016-17 to FY 2018-19 as tabulated below.

Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
As per KSEBL				
Energy sales excl bulk licensees(1) in MU	21054.26	22336.70	23294.99	24298.35
Hydro (2) in MU	7886.44	6998.42	6564.44	6471.77
Small hydro(3) in MU	665.36	725.61	824.80	863.28
Net Energy sales(1)-(2+(3) in MU	13833.18	16063.89	17555.35	18689.86
Non solar RPO - %	7.00%	8.00%	9.00%	10.00%
Solar RPO - %	2.75%	4.00%	5.25%	6.50%
Non Solar RPO Targets in MU	968.32	1285.11	1579.98	1868.99
Solar RPO Targets in MU	380.41	642.56	921.66	1214.84
As Per the Objector				
Energy sales excl bulk licensees(1) in MU	21054.26	21893.07	22719.52	23581.50
Hydro (2) in MU	7886.44	6998.42	6564.44	6471.77
Small hydro(3) in MU	665.36	725.61	824.80	863.28
Net Energy sales(1)-(2+(3) in MU	13833.18	15620.26	16979.88	17973.01
Non solar RPO - %	**7.00%**	**8.00%**	**9.00%**	**10.00%**
Solar RPO - %	**2.75%**	**4.00%**	**5.25%**	**6.50%**
Non Solar RPO Targets in MU	**968.32**	**1249.62**	**1528.19**	**1797.30**
Solar RPO Targets in MU	**380.41**	**624.81**	**891.44**	**1168.25**

KEY OBJECTIONS

Power Purchase Cost

From Central Generating Stations (CGS)

Reg. No. ER.772/86

- The Objector has estimated the fixed charge and variable charge for the control period considering **2% escalation in variable charges** duly accounting for, the escalation in coal price **and 2% reduction in fixed charges** from FY 2019-20 considering the ageing of stations

- The Objector has made a comparison of variable charges of CSGS with per unit cost considered by other southern region states (Tamil Nadu and Karnataka) for FY 2018-19 as approved by the Commission.

Particulars	Tamilnadu	Karnataka	KSEB Proposed
RSTPS – I & II	2.26	2.4	2.36
RSTPS – III	2.16	2.4	2.31
TALCHER – II	1.65	1.52	1.56
SIMHADRI TPS- II	2.68	2.82	2.84
NLC II STAGE 1	2.6	2.9	2.96
NLC I EXPANSION	2.49	2.7	2.73
NLC II -EXPN	2.42	2.7	2.73
NTPL	2.56	3.26	3.10
VALLUR STPS	2.4	3	2.89

- The charges shall be approved ***after due prudence check and after verification of actual power purchase cost*** during H-1 of FY 2018-19

Reg. No. ER.772/86

Power Purchase Cost

From Central Generating Stations (CGS)

- The Objector has arrived at the Transmission charges based on the average of actual point-of-connection (PoC) charges as approved by CERC for the state of Kerala for the months of April to June and July to September 2018
- The Objector humbly requests the Hon'ble Commission to consider the same for the Control period. Any variation in the charges may be adjusted by the Commission during the Trueup.
- Accordingly, the PoC charges as considered by the Objector has been tabulated below:

Particulars	PoC charges (Rs/MW/Month)	Reliability support charges (Rs/MW/Month)	HVDC charges (Rs/MW/Month)
CERC Order (Jul-sep) dated 30/08/2018	147224	29171	19093
CERC Order (Apr-Jun) dated 05/06/2018	176876	26946	14857
Charges as computed by the Objector	162050	28058.5	16975
Charges as considered by the Petitioner	176395	28506	18355

Reg. No. ER.772/86

Power Purchase Cost
From Central Generating Stations (CGS)

- Transmission charges (in Rs Cr) as estimated by the Objector

Name of CGS	Installed capacity (in MW)	Allocation (%)	Allocation (MW)	Annual Transmission charges for FY 19 (in Rs Cr)	Annual Transmission charges for FY 20 to FY 22 (in Rs Cr)
RSPTS Stage I & II	2100	11.67%	245.07	60.90	60.90
RSTPS Stage III	500	12.20%	61	15.16	15.16
TALCHER - Stage II	2000	21.35%	427	106.11	106.11
Simhadri Exp	1000	8.29%	82.9	20.60	20.60
NLC-II- Stage-1	630	10.00%	63	15.66	15.66
NLC-II- Stage-2	840	10.71%	89.964	22.36	22.36
NLC- Exp- Stage-1	420	15.93%	66.906	16.63	16.63
NLC - II Exp	500	15.93%	79.65	19.79	19.79
MAPS	440	5.23%	23.012	5.72	5.72
KAIGA Stg I	440	8.64%	38.016	9.45	9.45
KAIGA Stg II	440	7.96%	35.024	8.70	8.70
Kudamkulam I	1000	13.91%	139.1	34.57	34.57
Kudamkulam II	1000	13.30%	133	33.05	33.05
Vallur JV with	1500	3.33%	49.95	12.41	12.41
NTPL (Tuticorin JV)	1000	7.25%	72.5	18.02	18.02
Kudgi Unit I	800	4.49%	35.92	8.93	8.93
Kudgi Unit II	800	4.49%	35.92	8.93	8.93
Kudgi Unit III	800	4.49%	35.92	8.93	8.93
Bhavini*	800	8.60%	43	0.00	10.69
Total			**1756.85**	**425.89**	**436.58**

Reg. No. ER.772/86

Power Purchase Cost

From Central Generating Stations (CGS)

- PoC Charges for CSGS (in Rs Cr) as estimated by the Objector

FY	Transmission charges (in Rs Cr)		Difference (in Rs Cr)
	KSEB –(1)	Objector –(2)	**(Obj-Pet)**
FY 19	451.93	425.89	**(26.04)**
FY 20	468.75	436.58	**(32.17)**
FY 21	470.67	436.58	**(34.09)**
FY 22	470.67	436.58	**(34.09)**

- To examine the actual ***power purchase bills, blending ratio of domestic and imported coal*** before allowing the variable cost.
- For the fixed cost, it is requested to verify the fixed cost approved in the CERC tariff order for the respective plants and allow fixed cost only to the extent of approved in such orders.

Reg. No. ER.772/86

Power Purchase Cost

From Central Generating Stations (CGS)

- KSEBL projected Rs. 15.08 crore to be paid to CSGS as incentive
- This incentive cannot be ascertained upfront and shall be taken up at the time of truing up process.
- The Power purchase cost and quantum as projected by the Petitioner and as projected by the Objector is as below:

FY	Ex bus Energy (MU)		Fixed Cost (Rs Cr)		Variable Cost (Rs Cr)		Incentive to the paid by KSEBL to CSGS generator (RsCr)		Total Cost (Rs Cr)		Difference
	KSEB	Objector	KSEB	Objector	KSEB	Objector	KSEB	Objector	KSEB –(1)	Objector –(2)	(Obk-Pet)
FY 19	10675.96	10675.96	880.86	880.86	2775.64	2775.63	-	-	3656.50	3656.49	-
FY 20	11672.88	11672.88	891.99	891.99	3125.75	3125.74	15.08	-	4032.82	3918.48	**(15.08)**
FY 21	11706.78	11706.78	874.15	874.15	3202.39	3202.39	15.08	-	4091.62	4076.54	**(15.08)**
FY 22	11706.77	11706.77	865.55	865.55	3266.44	3266.44	15.08	-	4147.07	4131.99	**(15.08)**

Reg. No. ER.772/86

Power Purchase Cost

Renewable Energy Power Purchase from IPPs within the State

- KSEBL has not taken due-cognizance of the directives of the Hon'ble Commission, as the submissions of the Petitioner does not ensure RPO compliance

- KSEBL has not submitted any relevant documentation to support its claims for the purchase of power from additional RPO sources. Further, the rates proposed by the Petitioner from various sources holds no rationale

- Tariff discovered in Solar bidding during H-1 of FY 19

State	Agency	Capacity (MW)	Month-Year	lowest tariff discovered(Rs/kWh)
PAN India	NTPC	2000	August 2018	2.59
Odisha	GRIDCO	200	July 2018	3.04
Andhra Pradesh	SECI	750	July 2018	2.70
PAN India	SECI	2000	July 2018	2.50
Karnataka	SECI	200	May 2018	2.82
Maharashtra	MSEDCL	1000	May 2018	2.72
Andhra Pradesh	NTPC	750	May 2018	2.73
Weighted average				**2.63**

- To consider an average tariff of Rs 3 per kWh to meet solar RPO and Rs. 2.90/kwh to meet non-solar RPO.

KEY OBJECTIONS

Power Purchase Cost

Renewable Energy Power Purchase from IPPs within the State

Reg. No. ER.772/86

Power purchase from IPPs as estimated by the Objector

Source	Energy at periphery (MU)		Total Cost (Rs Cr)		Difference (Rs. Cr)
	KSEB	As per Objector	KSEB (-1)	As per Objector (-2)	**(Obj-Pet)**
FY 2018-19					
Small Hydel	99.74	99.74	36.90	36.89	0.00
Wind	107.47	107.46	39.68	39.67	0.00
Solar	72.88	72.88	26.74	26.74	0.00
Total	280.09	280.08	103.32	103.30	**0.00**
FY 2019-20					
Small Hydel	99.74	99.74	36.90	36.89	0.00
Wind	557.46	521.97	170.18	159.88	(10.30)
Solar	561.69	543.94	185.60	168.06	(17.54)
Total	1218.88	1165.65	392.68	364.83	**(27.85)**
FY 2020-21					
Small Hydel	99.74	99.74	36.90	36.89	0.00
Wind	753.10	701.31	226.92	211.89	(15.03)
Solar	835.80	805.58	275.46	246.55	(28.91)
Total	1688.64	1606.63	539.28	495.33	**(43.95)**
FY 2021-22					
Small Hydel	99.74	99.74	36.90	36.89	0.00
Wind	961.85*	931.94	313.12	278.77	(34.35)
Solar	1117.43*	1082.39	389.33	329.59	(59.74)
Total	2325.80	2114.07	739.35	645.25	**(94.10)**

Power Purchase Cost

Renewable Energy Power Purchase from IPPs within the State

Reg. No. ER.772/86

- Solar RPO Obligation (MUs) as estimated by the Objector

Particulars	FY 2018-19		FY 2019-20		FY 2020-21		FY 2021-22	
	KSEB	Objector	KSEB	Objector	KSEB	Objector	KSEB	Objector
Solar purchased	**72.88**	**72.88**	**532.66**	**543.94**	**792.50**	**805.58**	**1117.43**	**1082.39**
Own Generation	**14.49**	**14.49**	**42.61**	**42.61**	**47.60**	**47.60**	**47.60**	**47.60**
Banking and GBI	**38.26**	**38.26**	**38.26**	**38.26**	**38.26**	**38.26**	**38.26**	**38.26**
Total -Solar	**125.63**	**125.63**	**613.53**	**624.81**	**878.36**	**891.44**	**1203.29**	**1168.25**

- Non-Solar RPO Obligation (MUs) as estimated by the Objector

Particulars	FY 2018-19		FY 2019-20		FY 2020-21		FY 2021-22	
	KSEB	Objector	KSEB	Objector	KSEB	Objector	KSEB	Objector
Non Solar purchased	**207.21**	**207.20**	**599.15**	**621.71**	**778.61**	**801.05**	**1061.60**	**1031.68**
Own hydel Stations	**499.83**	**499.83**	**560.07**	**560.07**	**659.26**	**659.26**	**697.74**	**697.74**
Through Banking arrangement -SHP	**65.80**	**65.80**	**65.80**	**65.80**	**65.80**	**65.80**	**65.80**	**65.80**
Own Generation-Wind	**1.25**	**1.25**	**2.04**	**2.04**	**2.08**	**2.08**	**2.08**	**2.08**
Total –Non- Solar	**774.09**	**774.08**	**1227.06**	**1249.62**	**1505.75**	**1528.19**	**1827.22**	**1797.30**

Reg. No. ER.772/86

Power Purchase Cost

From Long term contracts

- The Objector notes with concern that the rate of power purchase from Long term contracts is comparatively higher than the average power purchase cost for every year

- Cost comparison of CSGS and long term contracts as estimated by the Objector

Particulars	Fixed cost (in Rs Cr)	Variable cost (in Rs Cr)	Total cost (in R Cr)	% of FC to overall cost
CSGS				
FY 19	880.86	2775.64	3656.50	24%
FY 20	891.99	3125.75	4017.74	22%
FY 21	874.15	3202.39	4076.54	21%
FY 22	865.55	3266.44	4131.99	21%
Long term contracts				
FY 19	2,131.12	1,283.44	3414.56	62%
FY 20	2,088.31	1,407.36	3495.67	60%
FY 21	2,046.07	1,435.50	3481.57	59%
FY 22	2,016.36	1,464.21	3480.57	58%

- To verify and re-determine the charges for long term power purchase contracts, if required

Reg. No. ER.772/86

Power Purchase Cost

From Long term contracts -PoC Charges

- PoC Charges for Long-term contracts (in Rs Cr) as estimated by the Objector

FY	Transmission charges (in Rs Cr)		Difference (in Rs Cr)
	KSEB –(1)	**Objector –(2)**	**(1-2)**
FY 19	120.56	111.83	**(8.73)**
FY 20	120.56	111.83	**(8.73)**
FY 21	120.56	111.83	**(8.73)**
FY 22	120.56	111.83	**(8.73)**

- To verify the power purchase schedule and actual bills of power purchase from long-term contracts while allowing the power purchase cost and also check if any foul play is involved.
- The Objector has also looked at the variable cost of long-term contracts in other States. For example,
  - Jhabua Power Ltd has a long term agreement signed with Madhya Pradesh distribution company to sell power at a Fixed and Variable cost per unit of Rs. 1.93/kWh and Rs. 2.28/kWh for FY19. The Fixed cost as a percentage of total cost is ~46%, whereas in Kerala, the fixed cost paid to this station is ~65% of the total cost.

Reg. No. ER.772/86

Power Purchase Cost

From Liquid fuel based generating station (RGCCPP) & Short term power purchase

- KSEBL proposed to use power from RGCCPP plant during extreme exigencies. There is a fixed charge obligation of **Rs. 200 Cr per year**.
- Relevant extracts from Suo-moto Order for the FY 2017-18

"The Commission is of the considered view that, with the energy available from generators and traders outside the State at competitive rates, ***there is no necessity to continue the PPA with RGCCPP Kayamkulam.*** *Hence, the Commission has not approved any fixed charge commitments for RGCCPP Kayamkulam during the years 2016-17 and 2017-18."*

- KSEBL is able to meet its peak demand by power purchase from various sources.
- The Objector requests to disallow the fixed cost completely.

Summary of power purchase

Reg. No. ER.772/86

- To consider the peak short term power purchase rate for the FY 2017-18 which is around Rs 3.91 per kWh
- Power purchase quantum (in MU) & cost (in Rs Cr) as purchased from external sources as estimated by the Objector

Financial Year	Purchased Energy (at Kerala Periphery)		Purchase Cost		Difference
	MU	MU	Rs Cr	Rs Cr	
	Petitioner	Objector	Petitioner –(1)	Objector –(2)	**(Obj-Pet)**
FY 19	18764.36	18764.32	7942.01	7699.05	**(242.96)**
FY 20	21199.68	21146.45	8,672.27	8371.39	**(300.88)**
FY 21	21738.85	21656.85	8,884.51	8562.09	**(322.42)**
FY 22	22466.61	22466.61	9,184.58	8803.36	**(381.22)**

- Power purchase quantum (in MU) & cost (in Rs Cr) from own generation as estimated by the Objector

Financial Year	Energy (at Kerala Periphery)		Generation Cost		Difference
	MU	MU	Rs Cr	Rs Cr	
	Petitioner	Objector	Petitioner –(1)	Objector –(2)	**(Obj-Pet)**
FY 2018-19	7819.52	8336.76	522.94	390.18	**(132.76)**
FY 2019-20	6969.23	6969.23	560.87	427.77	**(133.10)**
FY 2020-21	6545.04	6545.04	657.72	523.93	**(133.79)**
FY 2021-22	6453.43	6453.43	792.44	657.16	**(135.28)**

Reg. No. ER.772/86

Revenue from sale of power

- KSEBL is left with surplus power after accounting for the sales and considering the loss levels as considered earlier.
- Surplus power sale to Bihar and Chhattisgarh state power utilities.
- Average rate of Rs. 5/kWh has been considered for the revenue to be accrued through selling of surplus units as tabulated below:

S No	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Energy required at Gen. Points in MU	24774.21	25646.47	26498.11	27383.51
2	Energy available (MU)	27101.08	28115.68	28201.89	28920.04
3	Surplus energy (MU)	2326.87	2469.21	1703.79	1536.53
4	Per unit sale cost (Rs/kWh)	5.00	5.00	5.00	5.00
5	Revenue from sale of surplus power (Rs Cr.)	1163.44	1234.61	851.89	768.27

Capital Investment for SBU-Generation

HTEHT IECA
Reg. No. ER.772/86

- The KSEBL has proposed development of new power plants,
  - 45 MW of Hydel at cost of Rs. 535 crore:- Rs. 10-15 Cr/MW
  - 10.10 MW of solar power plant at a cost of Rs. 57.51 crore- Rs. 5.4-5.7 Cr/MW
- CERC benchmark capital cost for Hydel project in a range of 5 MW to 25 MW is Rs. 9 crore/MW
- Current project cost estimation is ~Rs. 4 Cr/MW:- Solar module prices have reduced by ~32% in last 1.5 year, resulted into reduction in Project cost of solar plant. Current project cost estimation is ~Rs. 4 Cr/MW
- To direct the KSEBL to strictly adhere to the current market practice to arrive at the project costs.

Reg. No. ER.772/86

Capital Investment for SBU-Distribution

- Past trends of GFA addition (Rs. Crore)

Particulars	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18
Additions to GFA for SBU-D	632.63	491.41	908.26	550.82

- GFA addition as proposed by KSEBL

S No.	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Normal woks -Dhyuthi 2021	808.64	1300.55	1139.26	787.86
2	Estimated & other funded Works	199.7	201.69	203.71	205.74
3	System strengthening & IT works	1593.91			
4	IT related works (CAP)				258.14
5	Safety	18	19.5	20	18.5
	Total	**2620.25**	**1521.74**	**1362.97**	**1270.24**

- Actual additions of GFA in pasts is significantly lower than KSEBL’s projection for control period
- Phase out the System strengthening & IT works projects across 4 years- 40% in FY 2018-19, 30% in FY 2019-20, 20% in FY 2020-21 & remaining 10% in FY 2021-22 .

Reg. No. ER.772/86

Capital Investment for SBU-Distribution

- ## Re-estimated GFA:-

S.No	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Normal woks -Dhyuthi 2021	283.02	455.19	398.74	275.75
2	Estimated & other funded Works	69.90	70.59	71.30	72.01
3	System strengthening & IT works	637.56	478.17	318.78	159.39
4	IT related works (CAP)	0.00	0.00	0.00	90.35
5	Safety	6.30	6.83	7.00	6.48
	Total	996.78	1010.78	795.82	603.98

- ## GFA over the years- Comparison

Particulars - GFA	FY 2018-19		FY 2019-20		FY 2020-21		FY 2021-22	
	KSEB	Objector	KSEB	Objector	KSEB	Objector	KSEB	Objector
Beginning of the year	8390.00	8390.00	11010.25	9386.78	12531.99	10397.57	13894.96	11193.39
Additions during the year	2620.25	996.78	1521.74	1010.78	1362.97	795.82	1270.24	603.98
Deletions (if any)	-	-	-	-	-	-	--	-
Closing GFA	11010.25	9386.78	12531.99	10397.57	13894.96	11193.39	15165.20	11797.36

Reg. No. ER.772/86

Interest and Finance charges

Interest on Capital liabilities

- The Interest on normative loan is determined after considering asset addition and deducting consumer contribution, grants and allowable depreciation for each year of the control period
- Based on the GFA revision, the Interest on capital liabilities are as follows:-

S No	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening loan	2142.78	2897.38	3714.61	4302.92
2	GFA addition	996.78	1010.78	795.82	603.98
3	Less: Consumer contribution & Grants	132.27	70.59	71.30	72.01
4	Less: Allowable depreciation	109.91	122.97	136.21	146.63
5	Normative loan during the year	754.60	817.22	588.31	385.33
6	Closing normative loan	2897.38	3714.61	4302.92	4688.25
7	Average normative loan	2520.08	3305.99	4008.76	4495.59
8	Interest rate for the year	9.50%	10%	10%	10%
9	Interest for the year as per the Objector	239.41	330.60	400.88	449.56
10	Interest for the year as per the KSEBL	304.86	486.34	594.91	688.82
11	**Difference (Obj-Pet)**	**(65.45)**	**(155.74)**	**(194.03)**	**(239.26)**

Interest and Finance charges
Interest on Security Deposits

- KSEBL has not substantiated his claims on how such opening balance for FY 2018-19 has been arrived
- The Objector has recalculated the interest on security deposits based on the Commission's approved figure True up order of 2016-17.

S No	Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening: SD as on 1st April	2287.32	2457.32	2707.32	3007.32	3307.32
2	Addition during the FY	170	250.00	300.00	300.00	300.00
3	Closing SD as on 31st March	2457.32	2707.32	3007.32	3307.32	3607.32
4	Average SD during the FY		2582.32	2857.32	3157.32	3457.32
5	Average interest rate (%)		6.75%	6.75%	6.75%	6.75%
6	Interest Charges as per Objector		174.31	192.87	213.12	233.37
	Interest Charges as per KSEBL		199.93	218.49	238.74	258.99
	Difference (Obj-Pet)		**(25.62)**	**(25.62)**	**(25.62)**	**(25.62)**

Reg. No. ER.772/86

Interest and Finance charges

Interest on General Provident funds

- As per KSEBL's petition, closing balance of PF account for the year 2017-18 as Rs. 2207.33 crore.
- Objector has re-estimated opening balance on the basis of Suo-moto order.
- Commission has approved an amount of Rs. 1,600 crore as closing balance of GPF for the year FY16-17, which has been considered as opening balance for FY 17-18.
- The Objector has calculated reduced GPF balance, which is resulting into lower interest quantum

As per Objector					
Opening: Provident Fund as on 1st April 2017	1600	2009.9	2159.9	2309.9	2459.9
Addition (net)during the Financial Year	409.9	150	150	150	150
Closing: Provident Fund as on 31st March 2018	2009.9	2159.9	2309.9	2459.9	2609.9
Average PF during the Financial Year		2084.9	2234.9	2384.9	2534.9
Average interest rate (%)		8.40%	8.40%	8.40%	8.40%
Interest Charges - Rs. Cr		175.13	187.73	200.33	212.93
Difference (Obj-Pet)		**(16.59)**	**(16.59)**	**(16.59)**	**(16.59)**

Reg. No. ER.772/86

Interest and Finance charges

Interest on working capital loan

- KSEBL has not arrived at working capital requirements correctly for SBU-G and T.

SBU – Generation	FY 2017-18	FY 2016-17	FY 2015-16
C) Net Current Assets			
(1) Current assets, loans and advances			
a)Inventories*	54.6	23.05	26.16
b)Receivables against Sale of Power			
c)Cash & bank balances	25.03	6.32	20.24
d)Loans and advances		5.42	9.84
e)Sundry receivables	82.55	109.95	174.69
Total (C)(1)	162.18	144.74	230.93
(2) Current liabilities & provisions			
a)Borrowings for working capital	250.73	351.99	868.78
b)Payments due on Cap. liabilities			
c)Other current liabilities	304.55	309.99	305.54
Total (C)(2)	555.28	661.98	1174.32
Net Current Assets (C) [(C(1)) - (C(2))]	**(393.1)**	**(517.24)**	**(943.39)**

SBU – Transmission	FY 2017-18	FY 2016-17
C) Net Current Assets		
(1) Current assets, loans and advances		
a)Inventories*	41.75	56.82
b)Receivables against transmission charges		
c)Cash & bank balances	25.59	8.96
d)Loans and advances		4.63
e)Sundry receivables	72.96	33.69
Total (C)(1)	140.3	104.1
(2) Current liabilities & provisions		
a)Security Deposits from Consumers		
b)Borrowings for working capital	298.76	264
c)Payments due on Cap. liabilities		
d)Other current liabilities	531.53	519.44
Total (C)(2)	830.29	783.44
Net Current Assets (C) [(C(1)) - (C(2))]	**(689.99)**	**(679.34)**

- Annual accounts provided by KSEBL has shown negative working capital requirement for previous years, owing to the borrowing for working capital and other current liabilities {majorly trade payables(due but not paid)}.

Reg. No. ER.772/86

Interest and Finance charges

Interest on working capital loan

- All along previous years, it has been established that the KSEBL has been cash rich entity, with negative working capital requirements.
- KSEBL has projected no current liabilities for control period for G& T business.
- The Objector requests to disallow complete interest on working capital

As per KSEBL projections				
Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
SBU-G	5.86	6.19	6.89	8.38
SBU-T	17.24	19.79	24.66	30.03
SBU-D	0.00	0.00	0.00	0.00
As per Objector				
SBU-G	0.00	0.00	0.00	0.00
SBU-T	0.00	0.00	0.00	0.00
SBU-D	0.00	0.00	0.00	0.00
Difference (Obj-Pet)	**(23.1)**	**(25.98)**	**(31.55)**	**(38.41)**

Reg. No. ER.772/86

Interest and Finance charges

Interest on Master Trust Bonds

- The KSEBL has mentioned that ***due to the delay in operationalization of the Master Trust*** (from April 1, 2017), the unfunded liability, gratuity liability, and leave surrender liability has ***increased by Rs. 3,728.98 crore.***
- This is in addition to creation of Master trust and interest applicable
- Any additional liabilities beyond Master trust due to delay shall not be allowed in ARR
- The Hon'ble Commission in the True up order highlighted the following:-

"that the balance amount of Rs. 406.66 crore shall be deemed to be the contribution of the State Government as per the G.O (P) No.3/2015/PD dated 28-1-2015 and KSEB Ltd shall take necessary steps to get the balance amount from the ***Government either by adjustment of electricity duty retained or through subvension as per the discretion of the Government for fulfilling the obligation of the Government in funding terminal benefits*** during the interim period/till the Master Trust is formed."

Reg. No. ER.772/86

Interest and Finance charges

Interest on Master Trust Bonds

- The Objector would like to bring kind attention of Hon'ble Commission to Govt of Kerala order dated October 31,2013, G.O.(P) No.46/2013/PD, Clause 6 (9), bullet (e). The excerpts of the order is re-produced below:-

"…the interest on Bonds and repayment of principal, the Kerala State Electricity Board Limited will be paying the annual pension contribution based on actuarial valuation to the Master Trust in respect…."

"..The unfunded liability upto the date of transfer will be borne and shared between the State government and the Kerala State Electricity Board Limited…."

- The additional liability of Rs. 3728.98 on account of delay in formation of master trust, which is proposed to be recovered through interest on additional bonds shall not be burdened to the existing electricity consumers of the State

Reg. No. ER.772/86

Interest and Finance charges
Summary

S.No	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
	As per KSEBL				
1	Interest on capital liabilities	562.23	871.38	1,222.54	1,508.49
2	Interest on security Deposit	199.93	218.49	238.74	258.99
3	Interest on GPF	191.72	204.32	216.92	229.52
4	Interest on MT Bonds	773.68	732.96	692.24	651.52
5	Interest on additional Trust Bonds	372.9	372.9	372.9	372.9
6	Interest on working capital	23.1	25.98	31.55	38.41
7	Total Interest & Finance Charges	**2,123.56**	**2,426.03**	**2,774.89**	**3,059.83**
	As per Objector				
1	Interest on capital liabilities	496.78	715.64	1,028.51	1,269.23
2	Interest on security Deposit	174.31	192.87	213.12	233.37
3	Interest on GPF	175.13	187.73	200.33	212.93
4	Interest on MT Bonds	773.68	732.96	692.24	651.52
5	Interest on additional Trust Bonds	0	0	0	0
6	Interest on working capital	0	0	0	0
7	Total Interest & Finance Charges	**1,619.90**	**1,829.20**	**2,134.20**	**2,367.05**
	Difference (Obj-Pet)	(503.66)	(596.83)	(640.69)	(692.78)

Reg. No. ER.772/86

Operation & Maintenance charges

Transmission

- The KSERC Tariff regulations, 2018 specified the O&M norms for the transmission business
- The bays and line infrastructure projection considered for O&M cost calculation is very high as compare to the historical growth
- The actual growth rate of bays and transmission line remains at 1.24% and 0.94% respectively. Whereas, the KSEBL has projected a growth rate of ~5%.
- Re-estimated O&M charges

SNo	Item	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Remarks
1	O&M cost for Bay (Rs lakh /Bay)	10.71	11.23	11.77	12.34	Norm
2	O&M cost (Rs lakh /circuit km)	0.93	0.98	1.03	1.08	Norm
3	Bays (No.) (for Previous year)	2,201	2,228	2,256	2,284	At growth rate of 1.24%
4	Line (Ckt-Km)(for previous year)	9,752	9,844	9,937	10,030	At growth rate of 0.94%
5	Normative O&M cost (Rs.Cr.)	326.42	346.71	367.88	390.18	
6	**Difference over KSEBL projection (Obj-Pet)**	**(36.81)**	**(50.74)**	**(85.00)**	**(101.10)**	

Reg. No. ER.772/86

Operation & Maintenance charges
Distribution

- Due to change in sales quantum and GFA additions as projected by Objector, the O&M charges are re-estimated as follows:-

- Employee Cost and A&G cost projection (Rs Crores)

S No	Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	consumers (Rs. L/1000)		4.80	5.03	5.27	5.53
2	Dist. Transformers (Rs. L/DTr)		0.64	0.67	0.70	0.73
3	Length of HT line (Rs. L/km)		0.79	0.83	0.87	0.91
4	Energy sales (Rs/unit)		0.19	0.20	0.21	0.22
5	No. of consumers	12592890	12611100	12957080	13314526	13683932
6	No. of Dist. Transformers (Nos)	76860	80064	81537	82897	83950
7	HT Line (Ckt-Km)	72949	66225	69686	72654	74729
8	Energy sales in MU	21840	21647.29	22511.78	23365.01	24254.93
9	Employee, A&G Cost (Rs Cr)		1979.53	2153.38	2332.61	2516.62

- R&M expense projection (Rs Crores)

S No	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Opening GFA	8390.00	9386.78	10397.57	11193.39
2	R&M expenses @ 3%	251.70	281.60	311.93	335.80
3	Addition during the year	-	-	-	-
4	Total	251.70	281.60	311.93	335.80

Reg. No. ER.772/86

Operation & Maintenance charges
Distribution

- The Objector has estimated the Repair and Maintenance Expenses at 3% of Opening GFA of each year of upcoming control period, while it feels that the pro rata R&M expenses considered by the Petitioner for the assets added in each year (Rs. 10.13 Crores, Rs. 15.10 Crores, Rs. 13.50 Crores and Rs. 9.99 Crores), may be allowed only during the final true up exercise done by the Hon'ble Commission once the actual month wise data is available.
- The total O&M expenses is tabulated below:

S No	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
1	Employee & A&G costs	1979.53	2153.38	2332.61	2516.62
2	R&M expenses	251.70	281.60	311.93	335.80
3	Normative O&M expenses	2231.23	2434.98	2644.54	2852.42
4	**Difference (Obj-Pet)**	**(10.13)**	**(63.81)**	**(87.15)**	**(104.07)**

Reg. No. ER.772/86

Depreciation

- The Objector has recalculated the Depreciation due to variation in GFA additions

No	Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
	As per KSEBL				
1	Opening GFA (excl revaluation)	8390.00	11010.25	12531.99	13894.96
2	Addition during the year	2620.25	1521.74	1362.97	1270.24
3	Total	11010.25	12531.99	13894.96	15165.20
4	Depreciation for the year	323.94	425.10	483.86	536.48
5	Less: Claw back depreciation	214.22	281.12	319.97	354.77
6	Net depreciation allowable	109.72	143.99	163.89	181.71
	As per Objector				
1	Opening GFA (excl. revaluation)	8390.00	9386.78	10397.57	11193.39
2	Addition during the year	996.78	1010.78	795.82	603.98
3	Total	9386.78	10397.57	11193.39	11797.36
4	Depreciation for the year	323.85	362.33	401.35	432.06
5	Less: Claw back depreciation	213.95	239.36	265.14	285.43
6	Net depreciation allowable	109.91	122.97	136.21	146.63

Bad Debts

Reg. No. ER.772/86

- The petitioner has requested to create provision of **Rs.15 crore** for estimated bad debt the next control period.
- 100% collection efficiency shall be targeted.
- No justification has been provided in the petition
- Thus it is requested to the Hon'ble Commission to disallow this amount.

Reg. No. ER.772/86

One time expense – Donation to CM Relief fund

- The petitioner has submitted that it has donated Rs.35 crore to CM's Flood relief fund, which has been included in the ARR as one time expense.
- The Objector is of the view that such donations should be funded through their own internal accruals viz. deduction from employee expenses or disallowing a part of RoE and should not be loaded on to consumers
- Thus it is requested to the Hon'ble Commission to disallow this amount.

Return on Equity

Reg. No. ER.772/86

- The KSEBL has proposed INR 489.86 crore as Return on Equity for the control period wiz. 14% of INR 3,499 Crore of equity base claimed by KSEBL.

- The Objector wants to highlight the remarks made by Hon'ble Commission on Return on Equity in ARR & ERC order 2014-15. The Commission remarked-

*"Though the licensee has claimed that increase in equity is an infusion of capital, **in fact, it is only accounting entry adjustments to match the increase in assets due to revaluation** and to facilitate the repayment of bonds to be issued for funding terminal liabilities. **Hence, the equity additionally claimed does not materially enhance any benefits to the consumers**, but the Commission as a matter of principle approves the second transfer scheme and hence the enhancement of equity announced by the Government is recognized."*

Reg. No. ER.772/86

Return on Equity

- The suggestion of Consultant engaged by the Hon'ble Commission on equity base is reproduced below:-

"the Commission may allow RoE either on the equity capital allowed earlier by the Commission or as the reduced equity capital of Rs. 283.91 crore (Rs. 1553 crore – Rs. 1269 crore)"

- Accordingly, the Objector humbly submits that the **RoE of 14%should be allowed only on the reduced equity capital of Rs. 283.91 crore**, as worked out by the Consultant based on the detailed analysis of balance sheet of KSEBL.

Return on Equity

Reg. No. ER.772/86

- The Objector requests Hon'ble Commission to allow 14% return on equity of Rs. 283.91 crore (i.e. Rs. 39.75 crore).

Particulars	KSEB Petition	As per the Objector
Equity (INR Crore)	3499.00	283.91
Return on Equity %	14%	14.0%
Return on Equity (Rs. Crore)	489.86	39.75
SBU wise (Rs. Crore)		
SBU-G	116.38	9.44
SBU-T	119.99	9.73
SBU-D	253.5	20.57

Revenue Gap and Carrying Cost

Reg. No. ER.772/86

- The Objector has not considered carrying cost in line with its Judgment in the Suo-moto Order for the FY 2017-18

"The licensee could have realized such additional cost of power purchase by way of fuel surcharge immediately after each financial year. The licensee has not realized such additional cost of power purchase from the consumers. **In view of the delay in filing the application for truing up of accounts, *the Commission does not propose to allow the carrying cost on such revenue gaps* and therefore the licensee has to bear the burden of carrying cost.**"

Reg. No. ER.772/86

Revenue Gap and Carrying Cost

- 8.As per G.O (G.O(P)No.46/2013/PD.Dated:31-10-2013),......*Government have notified the Kerala Electricity Second Transfer Scheme(Re-vesting) the assets and liabilities of erstwhile KSE Board in to Kerala State Electricity Board Limited,a fully owned Government Company,constituted under Companies Act,1956.Clause6(9)(d) of the said scheme provides that the electricity duty collected by KSEB for the period from* ***1-4-2008 to 31-03-2012 will be permitted to be retained in KSEB Ltd,as Government's contribution for fundng the terminal liability.***
- As per the Government of Kerala order dated May 13, 2015, G.O.(Ms.) No. 17/2015/PD upon Re-vesting of the assets and liabilities of erstwhile KSEB to KSEBL- Netting off the dues between Govt. and KSEB:-

"(i) The proposal of KSEB Ltd. for finalizing accounts after ***netting off of dues between KSEB and Government, up to 31-10-2013, the date of re-vesting the assets and liabilities of erstwhile KSEB into the Kerala State Electricity Board Limited stands approved****. The netting off of accounts has been done on the basis of the principal figures of Electricity Duty and Surcharge (excluding penal interest on non-payment of Electricity Duty and Surcharge), as furnished by the KSEB Limited and after the adjustment, the balance Electricity Duty available with KSEB Ltd. as on 31-10-2013 is Rs. 435.62 crore.*

(ii)…

"

Reg. No. ER.772/86

- Revenue Gap and Carrying Cost

(iii) In continuation to the adjustment of dues as on 31-10-2013, ***the dues between Government and KSEB Limited up to 31-12-2014 stands provisionally netted off***, *on the basis of the provisional figures furnished by KSEB Ltd. regarding electricity duty to be paid to Government by KSEB Ltd. as on 31-12-2014. …*

….

(vi) The entire duty collection after 31-12-2014 will be transferred to pension fund account as Government contribution, as provided under Clause 2(2) of the G.O., read as eighth paper above"

" Hon'ble Regulatoy Commission was also allowing Terminal Liability during 31-03-2008 to 31-10-2013 in its ARR and Truing Up Orders of the above Period.

Through the first and second Transfer Schemes the Terminal liability is the Obligation of the Government of Kerala ,till the Master Trust is formed to manage the Pension liabilities of the Employees of KSEBL,those who not covered in the New Contributory National Pnsion Scheme.

Revenue Gap and Carrying Cost...

Reg. No. ER.772/86

In GO(Ms)No.17/2015/PD dated:13/05/2015 clearly spelt out that the Electricity Duty Collected and retained by KSEBL during 31-03-3008 to 31-12-2014 is permitted by Govt to utilise against the Pension liabilities .

The above GO .Clause 13 (iii) , (vi) and (viii)The entire duty collection till 31-12-2014 is approved by Govt. as contribution pension liability from Government ...
and once the Master Trust is formed the annual Govt. Contribution of Rs.586.10 Cr for the Pension Fund can account from the Electricity duty collected ...and balance electricity duty and surcharge to be paid to Govt from FY 2015-16 onwards without fail in future years

The total amount of Electricity Duty during this period is Rs.3056.32 Cr.

The Objector Humbly request the Hon'ble Commission to deduct this Rs.3056.32 Cr of Govt. Contribution while computing the unbridged revenue gap of KSEBL.

Reg. No. ER.772/86

Revenue Gap and Carrying Cost

- Net dues as on 31-12-2014 to be paid to the government was netted off. KSEBL had anticipated receivables from government on account of subsidies and pension liabilities.

- KSEBL was expected to pay the electricity duty collected from the consumers to the government. The Hon'ble Commission has allowed KSEBL to recover the pension liabilities through ARR/truing up process. As a result, the electricity duty collected till 31-12-2014 amounting to Rs. 3,056.32 crore has been retained by the KSEBL and not settled during the netting off processes.

- In other words, the KSEBL is doubly accounting the money as it has collected pension liabilities from consumers and retained electricity duty allowed by Govt. towards its pension liability.

- Collection of electricity duty is as follows:-

S No.	Particulars	Amount in (Rs. Cr)
1	From 2008-09 to 31-10-2013	2,396.36
2	From 1-11-2013 to 31-12-2014	659.96
3	Total till 31-12-2014	3,056.32

Revenue Gap and Carrying Cost

Reg. No. ER.772/86

- The revenue gap to an extent of Rs.3,056.32 crore collected towards electricity duty not paid to the government and pension liabilities collected during ARR/Truing up processes has to be reviewed.
- It is estimated that the Petitioner is left with Revenue Surplus at the end of the year FY 2018-19. Hence, the Objector humbly requests the Hon’ble Commission to adjust the revenue surplus against the unbridged revenue gap for the FY 2018-19 and approve the tariff, as per the existing tariff schedule without any revisions.
- The Objector is of the view that after such adjustment, there will be again an unbridged revenue gap left, which may be treated as a regulatory asset and adjusted against the surplus estimated in the following years (from FY 2019-20).
- Having done so, there will be no revenue gap left at the end of third year and the Petitioner is still left with surplus each year. **Hence, the Objector humbly requests the Hon’ble Commission to retain the existing tariff without any revision.**

Reg. No. ER.772/86

Revenue Gap and Carrying Cost

S No.	Particulars	Amount in (Rs. Cr)	Amount in (Rs. Cr)
1	Total un bridged revenue gap as on 31-03-2011 (as per Table 1.3 of the order dated 14-8-2014 in OP No. 9/2014)	424.11	
2	Revenue gap as per the orders on truing up for the year 2011-12	1386.97	
3	Revenue gap as per the orders on truing up for the year 2012-13	3132.97	
4	Total	4944.05	
5	Less: Recovery permitted for 2017-18	1040.92	3903.13
6	Add: Remand order dtd 09.05.17-2009-10		107.90
7	Add: Remand order dtd 19.05.17-2010-11		204.70
8	True up order 2013-14 dated 20.06.2017		195.50
9	True up order 2015-16 dated 21.08.2018		202.97
10	True up order 2016-17 dated 14.09.2018		1031.06
11	Total		5645.26
12	***Revenue gap proposed by KSEBL to be recovered each year***		***806.47***
13	***Disallowance on account of collection of electricity duty, which was netted off against receivables from govt. (Pension Liabilities)***		***3056.32***
14	***Total revenue gap as per Objector***		***2588.94***

Summary of ARR

SNo	Particulars (Rs. Crore)	FY 2018-19		FY 2019-20		FY 2020-21		FY 2021-22	
		Petitioner	Objector	Petitioner	Objector	Petitioner	Objector	Petitioner	Objector
1	Cost of Generation	522.94	388.39	560.87	427.77	657.72	523.93	792.44	657.16
2	Cost of Power Purchase	7942.01	7699.05	8672.27	8371.39	8884.51	8562.09	9184.58	8803.36
3	Cost of Intra State Transmission	951.47	734.64	1106.58	873.02	1394.65	1117.26	1637.52	1333.54
4	NLDC /RLDC charges	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
5	O&M Expenses	2241.36	2231.23	2499.00	2434.98	2731.69	2644.54	2956.49	2852.42
6	I&F charges on long-term loans	304.86	239.41	486.34	330.60	594.91	400.88	688.82	449.56
7	Interest on Trust Bonds	646.45	646.45	612.43	612.43	578.40	578.40	544.38	544.38
8	Interest on additional bonds	311.58	0.00	311.58	0.00	311.58	0.00	311.58	0.00
9	Interest on Provident Fund	160.19	146.34	170.72	156.87	181.24	167.40	191.77	177.93
10	Interest on Security Deposit	199.93	174.31	218.49	192.87	238.74	213.12	258.99	233.37
11	Interest on WC and deposits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Carrying Cost on Gap	281.17	0.00	200.32	0.00	104.68	0.00	9.03	0.00
13	Depreciation	109.72	109.91	143.99	122.97	163.89	136.21	181.71	146.63
14	One Time expenses	29.24	-	-	-	-	-	-	-
15	Bad debts written off	15.00	0.00	15.00	0.00	15.00	0.00	15.00	0.00
16	Recovery of previous gap	806.47	-	806.47	-	806.47	-	806.47	-
17	Total Revenue Expenditure	14525.39	12372.72	15807.05	13525.90	16666.49	14346.82	17581.79	15201.34
18	Return on Equity	253.50	20.57	253.50	20.57	253.50	20.57	253.50	20.57
19	Tax on RoE	0.00		0.00		0.00		0.00	
20	Aggregate Revenue Requirement	**14778.89**	**12393.29**	**16060.35**	**13546.47**	**16919.99**	**14367.39**	**17835.29**	**15221.91**
21	Total Other Income (Rs Cr.)	357.80	357.80	371.99	371.99	393.00	393.00	414.03	414.03
22	Total Non-Tariff Income (Rs Cr)	173.75	173.75	176.11	176.11	178.23	178.23	180.33	180.33
23	Net ARR	**14247.24**	**11861.74**	**15512.25**	**12998.37**	**16348.76**	**13796.16**	**17240.93**	**14627.55**
24	Difference in ARR (Obj-Pet)		2385.50		2513.88		2552.60		2613.38

Revenue from existing tariff

Reg. No. ER.772/86

- PF incentive to be not considered in Revenue projections
- The Commission to consider the same is based on the actual data at the time of truing up.

Particulars	FY 2018-19		FY 2019-20		FY 2020-21		FY 2021-22	
	Petitioner	Objector	Petitioner	Objector	Petitioner	Objector	Petitioner	Objector
Revenue from existing tariff	12449.82	12449.82	13254.67	12990.44	13874.14	13531.15	14523.36	14095.35
PF incentive	97.79		104.21		108.85		113.73	
Net revenue	12352.03	12449.82	13150.46	12990.44	13765.29	13531.15	14409.63	14095.35
Fuel surcharge	81.65	81.65		0.00		0.00		0.00
Revenue from external sales	712.96	1163.44	962.74	1234.61	518.19	851.89	312.38	768.27
Total revenue	13146.64	**13694.91**	14113.20	**14225.05**	14283.48	**14383.05**	14722.01	**14863.61**
Difference in Revenue (Obj-Pet)		**548.27**		**111.85**		**99.57**		**141.60**

Revenue Gap

Reg. No. ER.772/86

- Revenue Gap (in Rs. Cr) as estimated by the Objector

Particulars	FY 2018-19		FY 2019-20		FY 2020-21		FY 2021-22	
	Petitioner	Objector	Petitioner	Objector	Petitioner	Objector	Petitioner	Objector
Net ARR	14247.24	11861.74	15512.25	12998.37	16348.76	13796.16	17240.93	14627.55
Net Revenue at existing Tariff	13146.64	13694.91	14113.20	14225.05	14283.48	14383.05	14722.01	14863.61
Revenue Gap/(surplus) at existing Tariff	**1100.60**	**(1833.17)**	**1399.05**	**(1226.68)**	**2065.28**	**(586.88)**	**2518.92**	**(236.06)**
(Less) Outstanding revenue gap to be adjusted	**-**	**1833.17**	**-**	**755.77**	**-**	**-**	**-**	**-**
Final Revenue Gap/ (surplus)	**1100.60**	**0.00**	**1399.05**	**(470.91)**	**2065.28**	**(586.88)**	**2518.92**	**(236.06)**

Reg. No. ER.772/86

Open access charges

Transmission and Wheeling charges

- Based on the objections raised in previous section, the transmission and wheeling charges for open access consumers is arrived as follows:-

SNo	Item	FY 2018-19	
		KSEBL	Objector
1	Energy injected into the system (MU)	24846.15	24774.21
2	Percentage of loss (%)	4.05%	4.05%
3	Loss of energy (MU)	1006.27	1003.36
4	Energy handled (MU) (1-3)	23839.88	23770.85
5	ARR of Transmission Business unit (Rs Cr)	951.08	734.64
6	**Transmission Charges (Rs./kWh)**	***0.40***	***0.31***

SNO	Particulars	FY 2018-19	
		KSEB	Objector
1	Energy injected into the system (MU)	24846.15	24774.21
2	Percentage of loss (%)	4.05%	4.05%
3	Loss of energy (MU)	1006.27	1003.36
4	Energy handled (MU)	23839.88	23770.85
5	Sale of energy at 66 KV system and above	2023.64	2023.64
7	Less auxiliary consumption of substation	15.58	15.58
8	Energy transmitted to HT system	21800.66	21731.63
9	HT loss	5.35%	5.35%
10	Energy handled at HT level (MU)	20634.33	20568.99
11	Distribution ARR (excl Gen, PP, Trn & carrying cost)	3743.29	3039.66
12	Distribution ARR (at HT level) (25 % of Dist ARR)	935.82	759.92
13	**Wheeling Charges (Rs./kWh)**	***0.45***	***0.32***

Reg. No. ER.772/86

Open access charges
Cross-subsidy surcharge

- In Suo-moto order 2017, the Hon'ble Commission had clearly stated the need for estimating the Cross Subsidy Surcharge (CSS) separately for embedded consumers and consumers who opt out of the system of SBU-D of KSEBL
- The correct rationale that the embedded consumers continue to pay demand charges (as applicable) to KSEBL even while procuring energy through open access has been amply pointed out. Thus, **the inclusion of demand charges again in the formula for estimation of CSS would result in burdening the embedded open access consumers through double imposition of demand charges.**

Reg. No. ER.772/86

Open access charges

Cross-subsidy surcharge

- Weighted Average Cost of Power:-

Financial Year	Total Energy Available and corresponding cost				Wt Avg cost	
	MU	MU	Rs Cr	Rs Cr	Rs/unit	
	KSEBL	Objector	KSEBL	Objector	KSEBL	Objector
2018-19	26583.88	27101.08	8464.95	8089.23	3.18	2.98
2019-20	28168.91	28115.68	9233.14	8799.16	3.28	3.13
2020-21	28283.89	28201.89	9542.23	9086.02	3.37	3.22
2021-22	28920.04	28920.04	9977.02	9460.51	3.45	3.27

- Transmission & Wheeling charges:-

SL. No	Particulars	2018-19	
		KSEBL	Objector
1	Transmission loss (%)	4.05%	4.05%
2	Loss at HT level (%)	5.35%	5.35%
3	Weighted average loss in the system for providing supply at HT level (%)	9.18%	9.18%
4	Aggregate Transmission Charges(Rs/unit)	0.40	0.31
5	Aggregate wheeling Charges(Rs/unit)	0.45	0.32
6	Regulatory Asset (Rs/unit)	0.13	0.00

Reg. No. ER.772/86

Open access charges

Cross-subsidy surcharge

- CSS for consumers ***who opt out of the system*** of SBU-D of KSEB for FY19

Category	T = Avg tariff	C= Avg. cost of PP	L = T& D Loss	D = Trans & wheeling charges	R= carrying cost	Surcharge as per formula	Surcharge limit (20% avg. tariff)	Cross subsidy surcharge
	(Rs/unit)	(Rs/unit)	(%)	(Rs/unit)	(Rs /Unit)	(Rs/unit)	(Rs/unit)	(Rs/unit)
HT-I(A)	6.62	2.98	9.18%	0.63	0.00	2.70	1.32	1.32
HT-I(B)	7.66	2.98	9.18%	0.63	0.00	3.74	1.53	1.53
HT-II(A)	6.99	2.98	9.18%	0.63	0.00	3.07	1.40	1.40
HT-II (B)	8.45	2.98	9.18%	0.63	0.00	4.53	1.69	1.69
HT-III(A)	5.38	2.98	9.18%	0.63	0.00	1.47	1.08	1.08
HT-III(B)	4.50	2.98	9.18%	0.63	0.00	0.59	0.90	0.59
HT-IV	9.28	2.98	9.18%	0.63	0.00	5.37	1.86	1.86
HT-V	8.01	2.98	9.18%	0.63	0.00	4.09	1.60	1.60
EHT 66 kV	5.77	2.98	4.05%	0.31	0.00	2.35	1.15	1.15
EHT 110kV	5.60	2.98	4.05%	0.31	0.00	2.19	1.12	1.12
EHT 220 kV	5.83	2.98	4.05%	0.31	0.00	2.41	1.17	1.17
EHT-General A	5.77	2.98	4.05%	0.31	0.00	2.35	1.15	1.15
EHT-General B	8.24	2.98	4.05%	0.31	0.00	4.82	1.65	1.65

Open access charges

Cross-subsidy surcharge

Reg. No. ER.772/86

- **For embedded consumers, the Objector has considered the proportion of demand charges to total revenue as per existing tariff**. Since the Objector has strongly contended the increase in the demand charges, it has not considered the increased proportion of demand charges in the total revenue. If it had considered the same proportion as estimated by KSEB, the CSS would have been further reduced for the embedded consumers.

Category	Cross subsidy surcharge for non-embedded consumers	Fixed charges payable	Cross subsidy surcharge for Embedded consumers as computed by the Objector
	(Rs/unit)	(Rs/unit)	(Rs/unit)
HT-I(A)	1.32	1.20	0.12
HT-I(B)	1.53	1.67	0.00
HT-II(A)	1.40	1.52	0.00
HT-II (B)	1.69	1.33	0.36
HT-III(A)	1.08	2.76	0.00
HT-III(B)	0.59	1.23	0.00
HT-IV	1.86	1.97	0.00
HT-V	1.60	2.36	0.00
EHT 66 kV	1.15	0.84	0.32
EHT 110kV	1.12	0.69	0.43
EHT 220 kV	1.17	1.20	0.00
EHT-General A	1.15	0.71	0.45
EHT-General B	1.65	1.52	0.13

Voltage wise cost of supply

Estimated by KSEB

Reg. No. ER.772/86

- As per KSEBL computation the VCoS for LT is only Rs. 0.05/kWh (6.30-6.25) higher than the ACoS at Rs. 6.25/ kWh while the HT and EHT VCoS is lower by only Rs. 0.07/kWh and Rs. 0.18/ kWh than the ACoS.
- Inconsistency in Net ARR numbers considered for calculating VCoS, lower value apportioned reducing the VCoS.

No	Item	Unit	EHT	HT	LT	Total
1	Energy sale at voltage levels	MU	2022.82	3760.98	15865.11	21648.91
2	Dist loss at voltage levels	%	4.05%	5.50%	7.45%	
3	Dist Loss	MU	81.92	200.68	2113.60	2314.28
4	Energy input at voltage levels	MU	2108.21	3979.87	17142.20	23230.28
8	**Total cost (apportioned)**	**Rs Cr**	**1228.28**	**2318.75**	**9987.36**	**13534.39**
5	Total Variable Power Purchase cost	Rs Cr	382.78	722.60	3112.42	4217.80
6	Total Fixed cost component	Rs Cr				9316.59
7	Demand/Connected load	MVA/MW	483.69	1106.47	20372.02	
8	Connected load at LT (excl domestic)	MW			4837.86	
8	MW required (MWA x 0.9)	MW	435.32	995.82	2138.26	
9	Input MW required (MW/loss)	MW	453.70	1098.26	2548.04	4100.00
10	FC apportioned on input basis	Rs Cr	1102.80	2669.54	6193.54	9965.88
11	FC proposed for LT I domestic	Rs Cr			500.00	
12	Balance amount	Rs Cr	1102.80	2669.54	5693.54	9465.88
13	FC for others per KVA / KW	Rs	1899.98	2010.56	980.73	
14	**VCoS per unit (based on sale)**	**Rs/ kWh**	**6.07**	**6.17**	**6.30**	**6.25**

Voltage wise cost of supply

Estimated by the Objector

GFA as on 01.04.2018

Particulars	Generation	Transmission	Distribution	Total
GFA as on 01.04.2018 (Crs)	4413.63	5314.77	8390	18118.4
%	24.36%	29.33%	46.31%	100.00%

Apportionment of ARR elements to the functional heads

Particulars	Generation (Crs)	Transmission (Crs)	Distribution (Crs)	Total (Crs)
ARR	8087.44	737.64	3917.49	12742.57
RoE	5.01	6.03	9.52	20.57
(Less) Other Income	87.16	104.96	165.68	357.80
(Less) Non Tariff Income	42.33	50.97	80.46	173.75
Net ARR - Function wise	**7,962.96**	**587.75**	**3,680.87**	**12,231.59**

Voltage wise energy flow

Sl. No.	Particulars	Units	EHT	HT	LT	Total
1	Energy sale at different voltage level (as per chapter-4)	(MU)	2039.22	3760.16	15863.49	21662.87
2	Loss associated with energy sale at different voltage level	(%)	4.05%	5.35%	5.62%	
3	Input energy required	(MU)	2125.30	4140.39	18508.52	24774.21
4	Proportion of input energy required at voltage level	%	9%	17%	75%	100%
5	Energy handled at each voltage system	(MU)	23770.85	20568.99	15863.49	

Voltage wise cost of supply

Estimated by the Objector

Reg. No. ER.772/86

…2

VCoS calculation as per the Objector for FY 19

Sl. No.	Particulars	Units	EHT	HT	LT
1	Cost of Generation and Power Purchase	Rs/ kWh	3.35	3.54	3.75
2	Cost of Transmission (EHT)	Rs/ kWh	0.25	0.25	0.25
3	Cost of Distribution (HT)	Rs/ kWh		0.45	0.45
4	Cost of Distribution (LT)	Rs/ kWh			1.74
5	**Cost at each interface points**	**Rs/ kWh**	**3.60**	**4.23**	**6.19**

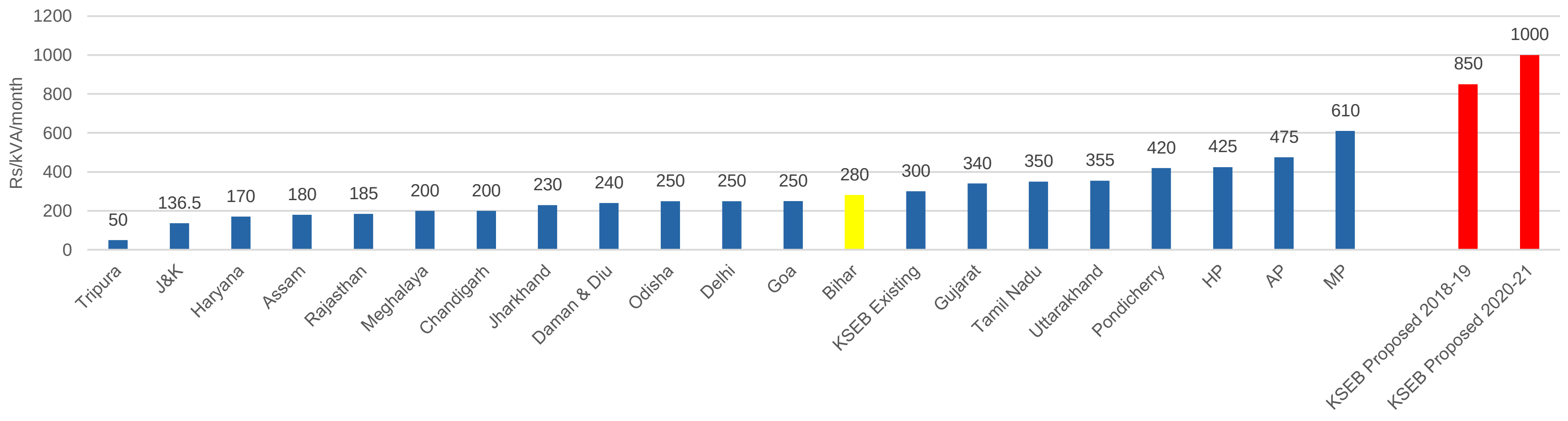
Other issues

Tariff Rationalization - Increase in fixed costs

Reg. No. ER.772/86

- The Objector would like to draw the attention of the Hon'ble Commission to the fact that although there has been an downward revision in the proposed energy charges, **the revision in fixed charges as proposed by the Petitioner is abnormally high** and would result in huge tariff shock to already cross-subsidizing HT & EHT consumers.
- It is imperative to mention that HT & EHT category consumers have power cost as one of the most critical components of their overall variable cost.
- The existing fixed costs in Kerala are among the higher side in the country.

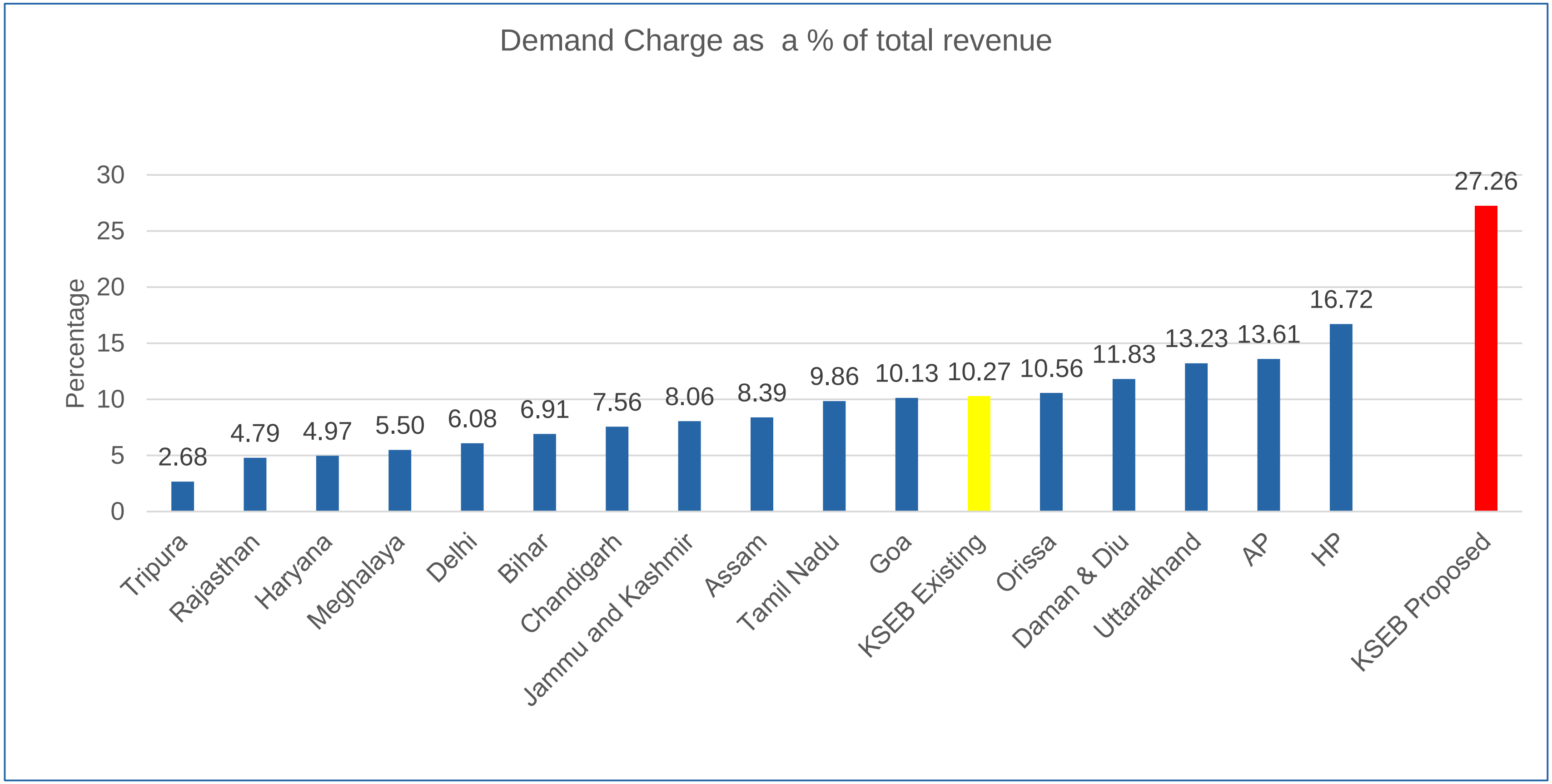
Demand charge comparison of HT Category among various states



Other issues

Tariff Rationalization - Increase in fixed costs

- The percentage composition of demand charge to overall revenue from existing tariff across various Indian states is depicted below



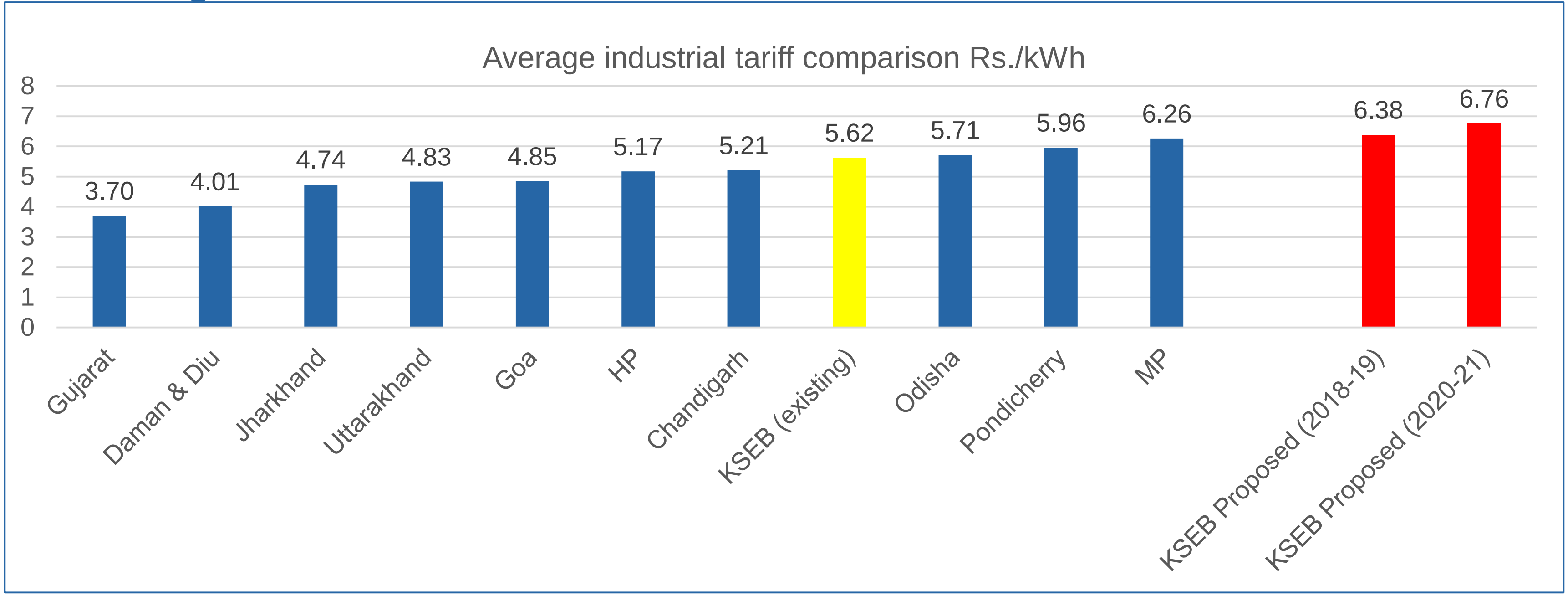
Tariff comparison at 60% load factor

Reg. No. ER.772/86

Other issues

Tariff Rationalization - Increase in fixed costs

- The comparison of average industrial tariff across various Indian states is depicted below. It can be observed that Kerala is already on the higher side when compared to other states in India.
- With the Proposed tariff, Kerala would become the highest tariff in the country and any such upward revision would have an adverse impact on the already cross subsidizing industrial consumers.



Tariff comparison at 60% load factor

Reg. No. ER.772/86

Other issues
Tariff Rationalization - Increase in fixed costs

- Hon'ble MERC in its MYT Order of MSEDCL for the period from FY 2016-17 to FY 2019-20 in paragraph 8.10 Rationalization of fixed cost, stated that

"The Commission has noted the increase in the supply availability of MSEDCL and, therefore, there is now a strong case for increase in the Fixed / Demand Charges, which were substantially reduced from the Order in Case No. 72 of 2007. ***However, such increase in Fixed Charges should be gradual and not steep. Therefore, the Commission has approved a gradual increase in Fixed / Demand Charges over the 3rd Control Period, just sufficient to keep the revenue recovery from Fixed Charges at around 17% of the total revenue of MSEDCL***

- The increase in fixed charges should be gradual over a period of time and should not be steep, unnecessarily burdening the consumers. However, the Petitioner in its Petition has sought ***for 40% of recovery from existing 13% which is highly irrational***.

Reg. No. ER.772/86

Other issues

Tariff Rationalization - Increase in fixed costs

- As per the above provisions of the Electricity Act 2003, **the State Commission shall introduce and encourage open access in the state.** With the recent push from the GoI to achieve its ambitious target of 175 GW of renewable capacity addition by FY 22 and the declining trend in tariffs in the recent renewable auctions, the **HT and EHT consumers are encouraged to procure power through open access** route.
- If the Hon'ble Commission revises the fixed charges in line with the submissions made by the Petitioner, the HT and EHT consumers would require to pay higher fixed charge to the Discom without consuming any power form the Discom. This coupled with the open access charges may not yield any benefit to the open access consumers.

Reg. No. ER.772/86

Other issues

Tariff Rationalization - Increase in fixed costs

- Further, it is imperative to mention that there are **few industries which are operational principally during certain seasons or limited periods** in the tariff year and if the main plant is regularly closed down during certain months of the tariff year. Had the fixed charges been increased to such huge extent, such consumer may be charged heavily for the months during which the plant is shut down (which period shall be referred to as the off-season period) which may severely affect the financials of the industry.
- Request the Hon’ble Commission to consider the submissions made by the Objector while approving the revised tariff by ensuring that there is not much variance in the proportion of the fixed charges/demand charges to the overall revenue contribution

Reg. No. ER.772/86

Other issues

Introduction of kVAh billing for HT/EHT Consumers

- Introducing kVAh billing will serve the purpose of simplification of billing, dispensing away power factor incentive and system strengthening
- Reducing the power factor incentive and increasing the power factor penalty for all the consumers, as proposed by the Petitioner, to maintain power factor has a negative impact on the large HT & EHT consumers.
- Consideration of apparent power (active as well as reactive) or also known as KVAh while billing the consumers is inevitable as reactive power being the integral part of the power supplied to consumers.

Reg. No. ER.772/86

Other issues

Introduction of kVAh billing for HT/EHT Consumers

- It is pertinent to mention that many states in India have migrated to kVAh based billing

S.No.	State	Year of implementation	Reason for migration to kVAh billing
1	Delhi	2000-01	Improved power factor
2	Chhattisgarh	2005-06	Improved power factor, Better Voltage Profile, Reduction in T&D losses & Overloading, Better Consumer Discipline
3	Jammu& Kashmir	2007-08	Greater Transparency, Reduction in Billing Errors, Reduced Admin. Burden, Better Power Factor.
4	Himachal Pradesh	2001-02	Improvement in system Power Factor, Reduction in billing errors, Reduction in losses, reduction in admin Burden.
5	U.P	2001-02	Improvement in system power factor, reduction in losses.
6	Uttrakhand	2003-04	Improvement in system power factor, reduction in losses.
7	Andhra Pradesh	2011-12	Improvement in power factor, reduction in demand & demand charges, reduction in system losses & overloading, improvement in voltage profile
8	Haryana	2012-13	Improvement in system power factor, reduction in losses
9	Punjab	2014-15	Improvement in system parameters, reduction in technical losses
10	Jharkhand	2018-19	Improved power factor, Better Voltage Profile, Reduction in T&D losses & Overloading, Better Consumer Discipline
11	Gujarat		
12	Madhya Pradesh		
13	Meghalaya		

Reg. No. ER.772/86

Other issues

Introduction of kVAh billing for HT/EHT Consumers

- Benefits of proposed (kVAh) based billing:
  - ✓ Complete recovery of costs of utility for active and reactive power
  - ✓ Zero/ Minimal drawl of reactive power from consumers by use of Capacitor Banks:
  - ✓ Reduction in power purchase cost
  - ✓ Reduction in (I^2)*R loss
  - ✓ Improvement in system voltage
- KSEBL has not taken due-cognizance of the directives of the Hon'ble Commission. As per Suo-moto order

"KSEB Ltd shall, on or before 30.06.2017, submit a suitable proposal for introduction of kVAh billing for HT-EHT consumers"

Reg. No. ER.772/86

Other issues

Decrease and eventual removal of Power factor incentive

- HT and EHT consumers with inductive load incur significant capital costs to install capacitor banks at their premises to maintain the power factor over the prescribed limits as set by the Hon'ble Commission.
- The applicable tariff and the cross subsidy surcharge are significantly high for the HT & EHT consumers, the power factor incentive is the only incentive that a consumer is benefited to maintain its power factor.
- The Hon'ble Commission in its recent tariff Order vide order dated 17.04.2017 in the matter of determination of Tariff for the year 2017-18 on Suo-motu proceedings has ordered to ***increase the power factor incentive*** from 0.25 % to 0.5% of energy charges for each 0.01% unit increase in power factor from 0.9 'for power factor between 0.9 to 1.00' in the case of LT IV ToD billed consumers and HT & EHT consumers. Such **increase in Power factor incentive is encouraging for the HT & EHT consumers to maintain the power factor within the permissible limits**

Reg. No. ER.772/86

Other issues

Decrease and eventual removal of Power factor incentive

- However, KSEBL has proposed that the minimum power factor to be maintained by consumer to be eligible for the power factor incentive is be fixed as 0.95 and the rate of incentive for power factor improvement be fixed as 0.25% of energy charges for each 0.01 unit increase in power factor for 2018-19 and 2019-20 and fixed as 0.12% for FY 2020-22 for eliminating incentive by next control period.

- An illustration of the existing and proposed power factor incentive proposal along with proposed Energy charges for EHT 66kV consumer in the distribution network of Kerala, maintaining Unity power factor is shown below:-

Incentive per unit (paise per kWh) comparison for EHT 66 kV Industrial consumer of KSEB with Unity PF	Existing PF incentive for Unity PF – 5% of Energy charges	Proposed PF incentive for Unity PF – 1.25% of Energy charges
Existing Energy charges @ 5.2 per kWh	0.26	0.07
Proposed Energy charges @ 4.50 per kWh	0.23	0.06

- PF incentive in Maharashtra:- Rs. 1790 Crore, 7.65% of the HT EHT billing revenue and 3.5% of the total revenue. Whereas, in Kerala:- Incentive payout is Rs. 72 crore, which is 0.74% of the revenue.

Reg. No. ER.772/86

Other issues

Decrease and eventual removal of Power factor incentive

- Comparison of the power factor incentive available across various states in India at Unity PF and the prospective average savings

State	Power factor incentive % at Unity PF	Average Energy charges (Rs/kWh) for HT/EHT - Industrial Tariff	Incentive per unit (paisa/kWh)
Maharastra	7%	6.98	49
Madhya Pradesh	7%	6.50	46
Goa	5% -(applicable on both fixed and Energy charges)	4.40	26
Chandigarh	5% -(applicable on both fixed and Energy charges)	5.00	30
Bihar	7.5% - -(applicable on both fixed and Energy charges)	6.60	59
West Bengal	8%	7.15	57
Rajasthan	5%	6.15	31
Puducherry	5%	5.30	32
KSEBL Existing	5%	5.20	26
KSEBL Proposed FY19	1.25%	4.50	6
KSEBL Proposed FY21	0.6%	4.50	3

** Fixed charge considered to be 20% of the revenue composition for computation of PF incentive*

Reg. No. ER.772/86

Other issues

Decrease and eventual removal of Power factor incentive

- In addition to the power factor incentive, **Maharashtra also gives the following incentives**:-
    - **Prompt payment discount** of 1% of the monthly bills (excluding taxes and duties) for payment of electricity bills within 7 days from the date of their issue.
    - **Load factor incentive**: - Industrial Consumers having Load Factor above 75% and upto 85% will be entitled to an incentive in the form of a rebate of 0.75% on the Energy Charges for every percentage point increase in Load Factor from 75% to 85%. Consumers having a Load Factor above 85 % will be entitled to a rebate of 1% on the Energy Charges for every percentage point increase in Load Factor from 85%. The total rebate will be subject to a ceiling of 15% of the Energy Charges applicable to the consumer.

No such incentives are offered in Kerala to attract industrial consumers.

** Fixed charge considered to be 20% of the revenue composition for computation of PF incentive*

Reg. No. ER.772/86

Other issues
Power factor incentive for Open access consumers

- Hon'ble Commission, has taken several initiatives to improve quality power by providing incentives and penalties.
- These initiatives have resulted in revolutionary changes. PF improvement in consumer side ultimately resulted in system improvement and reduction in T & D loss considerably.
- The licensee get benefitted by way of reduction in transmission losses due to PF improvement measures of the consumers.
- **Unfortunately the PF incentive provision is silent in KSERC orders related to Open access and KSEBL is conveniently denying the PF incentive for energy sourced through open access.**

Other issues

Power factor incentive for Open access consumers

- The consumers have to invest on installation and maintenance of PF improvement system for achieving a better pf.
- High consumer PF will reduce the reactive power loading of KSEBL and reduce the line current to deliver a fixed quantum of power to consumer and will improve the overall system of KSEBL.
- **The improvements and benefits to KSEBL out of the PF improvement made by the consumer is irrespective of the source of power - from KSEBL directly or through Open Access.**
- **There is no logic or rationale in distinguishing the PF incentive between energy drawn from licensee and that drawn from Open Access route.**

Reg. No. ER.772/86

Other issues

Power factor incentive for Open access consumers

- This issue was dealt in detail by the **Hon'ble Appellate Tribunal for Electricity in Appeal No.231 of 2012.**
- In its order dated 14th Nov 2013, the APTEL has concluded that the **Power Factor incentive is applicable to energy sourced through open access also.**
- Relevant portion of the order is abstracted in the next slides.

Reg. No. ER.772/86

Other issues

Power factor incentive for Open access consumers

- **Relevant portion of the APTEL Analysis:-** Appellate Tribunal for Electricity (Appellate Jurisdiction) APPEAL No.231 OF 2012 Dated: 14th Nov, 2013.

"34. The above analysis would show that very purpose to provide higher power factor rebate is to encourage the consumer to maintain high power factor to minimize the system losses. ***Any loss before the meter installed at consumers' premises is on account of the distribution licensee.*** *In order to reduce the losses, the State Commission has incentivized high power factor based on pure technical and engineering principle.* ***It has nothing to do with the source of power. Accordingly, power factor rebate is payable to the consumer who also avails open access****"*

"The very purpose to provide higher power factor rebate is to encourage the consumer to maintain high power factor and to minimize the system losses. Any loss before the meter installed at consumer's premises is on account of the distribution licensee. In order to reduce these losses, the State Commission has incentivized high power factor based on pure technical and engineering principle. ***It has nothing to do with the source of power****. Accordingly, power factor rebate is payable to the consumer who also avails open access".*

Reg. No. ER.772/86

Other issues

Power factor incentive for Open access consumers

PF incentive Eligibility for Cross Subsidy Surcharge for Open Access Consumers

- As per APTEL order:-

"as to whether the Cross Subsidy Surcharge payable by the Open Access Consumer is to be treated as a part of the electricity charges and need to be taken into account as consumer charges while deciding on the rebate admissible for the power factor?"

- "As per clause 2(19) of the Supply Code, the surcharge referred to in Regulation 3 is the Cross Subsidy Surcharge payable by Open Access consumer is a part of SoP charges and, therefore, the incentive on power factor would also be applicable on this amount……"
- ***From the APTEL order, beyond any doubt, it spelt out that PF incentive is eligible for Cross Subsidy Surcharge amount paid by Open Access consumers also.***

Reg. No. ER.772/86

Other issues

Power factor incentive for Open access consumers

- States with significant industrial presence in the country have kept a provision for PF incentive to encourage industries
- With respect to power factor penalty, KSEBL submitted that the disincentive for the power factor penalty should be made 1.25% of the energy charges for every 0.01 fall from 0.95 PF.
- Decrease in proposed power factor incentive along with increase in disincentive will have a cascading effect on the consumers.
- The Objector humbly requests the Hon'ble Commission to continue with the Power factor Incentive & Penalty as per the existing provisions.

Reg. No. ER.772/86

Prayer to the Hon’ble Commission

Parameter	Submissions
T&D Loss	• To enforce the minimum loss target as specified and disallow the excess T&D loss at the cost of highest marginal cost stations. • Issue clear directions to the Petitioner to adhere to the loss trajectory
Own generation and power purchase	• Cost of CSGS to be determined based on the CERC tariff Orders after prudence check. • PGCIL charges to be approved as per the CERC Orders. • Approve other sources of power purchase as per the methodology followed by the Objector. • Disallow the cost of power purchase (fixed cost and transmission charges) for RGCCPP (liquid fuel based generating stations) • Issue strict directions to comply with the RPO. • Any benefit in variation in the power purchase cost t be passed on to consumer in the subsequent true up processes. • Prudently verify the project cost for proposed new solar and hydel power plants
Capital Expenditure	• To allow the Capital expenditure vis-à-vis capitalization for the Control period based on the past trends and the submissions of the Objector.
Interest on long-term loans	• To disallow interest on loan corresponding to work in progress • To carry out the capex prudence check to verify the cost-benefit analysis and progress reports to ascertain the prudent capital expenditure to be approved for the purpose of calculation of interest on loans and bonds • To verify the opening and closing balance of GPF to allow interest

Prayer to the Hon'ble Commission

Parameter	Submissions
Interest on working capital	• Disallow interest on working capital due to the availability of sufficient funds to meet working capital.
Interest on Master Trust	• Additional liability of pension due to delay in creation of Master Trust shall not be borne to the consumers
Depreciation	• To consider re-estimated depreciation by Objector based on revised additions to GFA as per KSERC Regulation 2018, which is significantly lower than the amount proposed by the KSEBL
O&M Expenses	• Accept the estimated O&M cost by the Objector per KSERC (Terms and Conditions for Determination of Tariff) Regulations, 2018. • Need in policy changes in recruitment and compensation. • To issue directives on improving the operational efficiency thereby optimizing O&M costs of the system.
Bad Debt	• To not consider bad debt in ARR. This may be dealt at the time of truing up
One time expenses – Donation to CM Relief fund	• KSEBL has donated Rs. 35 crore to CM's Flood relief fund, which has been included in the ARR as one time expense. • As per the Objector, any donation made on this behalf shall be either deducted from their employee cost or Return on equity as claimed as part of ARR.
Other income and Non-Tariff income	• The details related to material cost variance shall be verified before approving true up.

Prayer to the Hon’ble Commission

Reg. No. ER.772/86

Parameter	Submissions
Return on Equity	• To allow 14% return on equity as per the equity balance specified in the balance sheet for SBU-D of the company.
Revenue Gap	• Disallow the carrying cost on the existing revenue gap as per the directions issued in the earlier Orders. • Consider the revenue gap as per the projections made by the objector. • To disallow the revenue gap to balance out the electricity duty collected in past and not paid to the government during netting off processes.
Revision of Tariff	• Consider the submissions of the Objector in approving the revised tariff. • Rationalization of Tariff (increase in fixed charges) if implemented, may be done without having much impact on the consumer category
Open Access charges	• Approve the open access charges as proposed by the Objector
Other issues	• Rationalization of Tariff, if implemented may be done in a phase wise manner without much impact on the consumers. • Introduce kVAh billing for HT/EHT consumers in phase wise manner • Continue existing provisions with respect to Power factor incentive and Penalty. • Power factor incentive to be made applicable for open access consumers.

Thank you