

**BEFORE THE KERALA STATE ELECTRICITY
REGULATORY COMMISSION**

Review Petition Filed

On 27TH June 2011

In the matter of : Review of KSERC Order dated 1st June 2011 on ARR & ERC Petition of KSEB for 2011-12

Petitioner : The Kerala HT & EHT Industrial Electricity Consumers' Association, PRODUCTIVITY HOUSE, HMT ROAD, KALAMASSERY – 683 104

The petitioner named above respectfully submits the following for the kind consideration of the Hon. Commission and favourable Orders.

1. The Petitioner is The Kerala HT & EHT Industrial Electricity Consumers' Association, comprising of 166 member consumers, including more than 29 major industries. Of the member HT & EHT industries about 31 industrial consumers have contracted for a maximum demand of more than 2000 KVA each with the Petitioner and more than 20 industries draw power at the EHT level from the Petitioner.
2. We had submitted our objections to the ARR & ERC Petition of KSEB for the year 2011-12 and also participated in the public hearing conducted at Ernakulam on 18-04-2011.
3. We had raised many objections to the submissions of KSEB and made appeals before the Hon'ble Commission on several points. But, to our regret, we find that a few of the arguments raised by us were not properly considered by the Hon'ble Commission.
4. In these circumstances we are constrained to submit this Review Petition for the kind consideration of the Hon'ble Commission. The points are elaborated below.

Hydel Generation

- 1) Hydel generation is one of the main factors which affect the ARR of KSEB. We feel that the methodology of 'Re Estimation of Hydel generation' as suggested by us in our Objections to ARR & ERC Petition 2011-12 was not fully understood by the Hon'ble Commission. We would like to explain the methodology in little more detail and place it before the Hon'ble Commission for review.
- 2) KSEB has considered the inflow for the previous 20 years directly for arriving at the 'average inflow'. There is a basic defect in taking 20-year average inflow directly for projecting the expected inflow for the next year. We had dealt with this in detail in our objections and suggested a proper method of estimation of expected inflow. Several projects have been commissioned during the period from 1991-92 to 2010-11. Average inflow is calculated based on inflow during each year into the then existing reservoirs. Over the years many new projects have been commissioned. This means that, after all the projects have been commissioned, the inflow recorded will be the inflow into all the reservoirs including the new ones. Or in other words, it means that, the inflow into the reservoirs of new Hydel projects commissioned from 1991-92 till the year of commissioning is not considered. This distorts the figures and taking the arithmetic average of inflow of all the years becomes incorrect. To illustrate this we are taking a hypothetical case as below.

Sample Case

Year	Rain fall in cm	Installed Capacity MW	Inflow MU
Year 1	300	1000	3504
Year 2	300	1100	3854
Year 3	300	1200	4205
Average	300		3854
Year 4 (Projection)	300	1200	4205

(Load factor of 0.4 is assumed for computation of inflow in MU)

- 3) In the above case in all the years, rainfall is the same. 100 MW each has been added in year 2 and year 3. Average inflow for the first 3 years is only 3854 MU. But, since a capacity of 1200 MW is available during Year 4 (the year for which expected inflow is being computed) and rainfall assumed is the same as in the previous years, obviously the inflow will be 4205 MU and not 3854 MU. To overcome this defect, “capacity weighted average inflow” has to be considered. In their petition on ARR & ERC 2011-12, KSEB simply took the arithmetic average for all the year’s inflow and in that method; they would have considered only 3854 MU in the above case. In reality, it would not be correct and capacity weighted average of 4205 MU should have been taken.
- 4) In our Objections to ARR & ERC Petition 2011-12, we had explained this point and given detailed re-estimation of Hydel generation.

Table 17 – “Re-estimation of Hydel generation” from our ‘objection’ is reproduced below for ready reference.

Table 1: Re-estimation of hydel generation

Sl. No.	Year	Inflow [MU]	Hydel capacity			Avg [MW]	Recalculated inflow
			OB [MW]	Additions [MW]	CB [MW]		
1	1991-92	5485.559	1,450	-	1,450	1,450	7,147
2	1992-93	7527.532	1,450	-	1,450	1,450	9,808
3	1993-94	7699.903	1,450	-	1,450	1,450	10,032
4	1994-95	7,391.03	1,450	27	1,477	1,463	9,541
5	1995-96	5,736.10	1,477	15	1,492	1,484	7,300
6	1996-97	5,727.72	1,492	3	1,495	1,493	7,245
7	1997-98	5,785.64	1,495	182	1,677	1,586	6,892
8	1998-99	8,833.03	1,677	16	1,693	1,685	9,903
9	1999-00	6,289.21	1,693	50	1,743	1,718	6,916
10	2000-01	6,269.28	1,743	50	1,793	1,768	6,699
11	2001-02	6,735.46	1,793	3	1,795	1,794	7,092
12	2002-03	4,268.03	1,795	-	1,795	1,795	4,491
13	2003-04	4,509.49	1,795	12	1,807	1,801	4,729
14	2004-05	6,232.17	1,807	37	1,844	1,825	6,448
15	2005-06	8,519.02	1,844	6	1,850	1,847	8,713
16	2006-07	7,177.11	1,850	-	1,850	1,850	7,328
17	2007-08	9,768.53	1,850	2	1,852	1,851	9,969
18	2008-09	5,370.52	1,852	35	1,887	1,869	5,427
19	2009-10	6,581.83	1,887	2	1,889	1,888	6,585
20	20010-11	6,595.96	1,889	-	1,889	1,889	6,596
						Average Inflow expected	7443

OB = Opening Balance

CB = Closing Balance

- 5) The average inflow in the capacity weighted method is 7443 MU whereas KSEB in their method has considered only 6625 MU. The difference is 818 MU which will make a huge impact on power purchase cost.
- 6) We request the Hon'ble Commission to review the estimated Hydel generation for 2011-12 as per the method given above.

Mismatch between Inflow and Hydel Generation

- 7) In our "Objections" to ARR & ERC 2011-12, in Table 18 we had given details of the unutilized hydel potential over the years in MU and it is reproduced below for easy reference.

Table 2: Unutilized hydel potential over the years (MU)

	Opening Storage	Inflow	Potential Generation	Actual Generation	Closing Storage	Unutilised potential
2005-06	0	8519	8519	7410	1109	1109
2006-07	1109	7177	8286	7464	822	822
2007-08	822	9769	10591	8327	2264	2264
2008-09	2264	5371	7635	5802	1833	1833
2009-10	1833	6582	8415	6646	1769	1769
2010-11	1769	6816	8585	7104	1481	1481

- 8) In our 'objections' in para 5.56 and 5.57 we had explained this point in detail. The referred paragraphs are reproduced below for easy reference.

This is a serious concern and the Objector had already raised this matter during the hearing of the Truing-up petition for the year 2008-09. We would like to place additional emphasis on the question about the utilisation of this potential as seen in the last column of the table above. For the year 2010-11 the unutilised capacity stands at 1481 MU which could have contributed towards reduction in the power purchase costs of the Board over the years. Also in the year 2007-08 the difference between the Inflow of 9769 MU and actual Generation of 8327 MU is 1442 MU which is an extremely high capacity which went unaccounted for.

The Objector requests the Hon'ble Commission to look into this matter at the earliest as any excess hydel capacity available would directly imply reduction in costly power purchase by the Board. The Objector also humbly requests the Hon'ble Commission to seek explanation

regarding the disparity in the potential inflow numbers submitted by the Board Vis-à-vis actual generation.

- 9) In its reply, KSEB pointed out that “*the inflow is the total water received in the reservoirs of KSEB which includes spillage water levels also*”. Year wise details of spillage for the years from 2005-06 to 2010-11 from Kuttiadi, Peringal, Sholayar, Idamalayar, Panniar & Neriamangalam reservoirs also have been furnished. But, we understand that the inflow during a period is calculated based on the reservoir levels and the generation during that particular period. An example is given below:

Inflow during June 2010 = Storage in MU corresponding to the water level on 1st July 2010 – Storage in MU corresponding to the water level on 1st June 2010 + Generation in MU from 1st June 2010 to 1st July 2010.

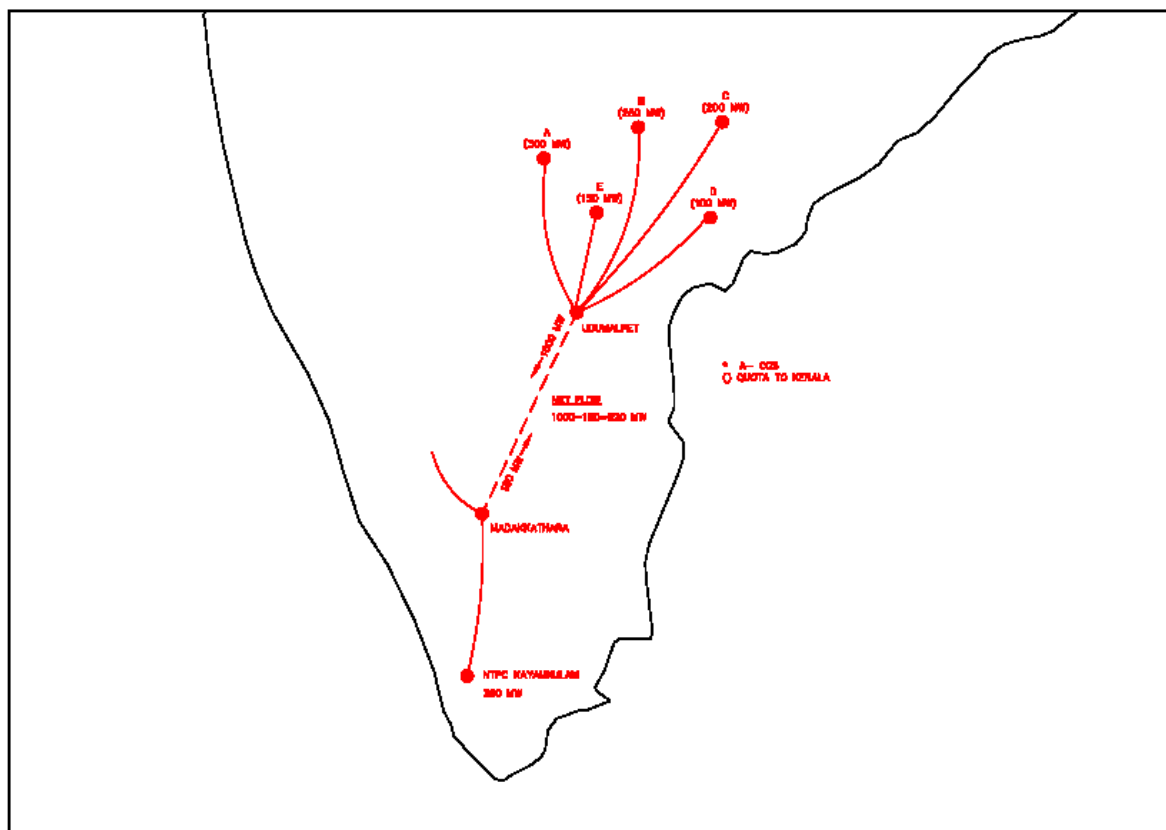
If at all there is spillage, water above FSL (Full Storage Level) overflows and is not accounted as inflow. Therefore, spillage cannot be the reason for the discrepancy.

- 10) Apparently, the Hon’ble Commission has been satisfied with the explanation of KSEB. We strongly feel that there is a mismatch between the inflow & generation and the issue needs to be addressed. We request the Hon’ble Commission to investigate the matter and take a suitable decision.

Transmission losses – external

- 11) KSEB has considered 5.08% transmission losses for power drawn from each CG Station. It has been pointed out earlier that the transmission loss has to be considered only on the actual flow and not on all the power allocated. In its reply, KSEB confirmed that KSEB was right in considering 5.08% losses for whole CGS power.

- 12) A demonstration along with a sketch is given below to show why taking 5.08% losses for the total power allocated is not correct.



Total CGS power allocation = 1000 MW

Quota for Tamil Nadu from NTPC Kayamkulam = 180 MW

Actual flow of power = 1000 – 180 MW
= 820 MW

Even though the power allocation in this sample case is 1000 MW, the actual power flow is only 820 MW. Hence transmission losses shall be applicable to the net flow only. When transmission losses are considered for all the CG Stations, we will be applying the losses for 1000 MW, whereas the losses are to be applied on 820 MW only. The external losses have to be reworked considering the net flow of power.

Depreciation

- 13) We had pointed out in our 'objection' that depreciation shall not be allowed on assets made out of consumer contribution & grants. For example, in Andhra Pradesh & Delhi, it is not allowed. Hon'ble Commission initiated suo-motu proceedings in this matter and found that Rs. 493.07 crores has to be clawed back towards depreciation on assets made out of Consumer contribution/ grants during the period 2003-04 to 2008-09. We had entirely supported the finding of the Hon'ble Commission; but a decision on this yet to be taken.
- 14) We had requested to disallow Rs. 157.15 Cr from depreciation projected by KSEB on account of that being depreciation on assets created out of consumer contribution/grants from the ARR of KSEB for 2011-12.
- 15) Though the Hon'ble Commission acknowledged our arguments, a decision has not been taken, presumably because the Commission has not issued its order on the suo-motu petition initiated by the Hon'ble commission in the matter.
- 16) We would like to point out that already a huge sum of Rs. 493 crores has to be clawed back from KSEB towards depreciation on assets made out of Consumer contribution / grants.
- 17) While the decision on the suo-motu petition on Depreciation on assets created out of consumer contribution/grant is pending, allowing depreciation again on the assets made out of Consumer contribution / grants this year will be a gross injustice on Consumers.
- 18) We request the Hon'ble Commission to review the matter.

Discrepancy in Domestic Consumption

- 19) The Association had taken enormous pains to study the pattern of electricity consumption by domestic consumers in different slabs. The data relied upon

was provided by KSEB itself by RTI provision. In our 'objections', we had pointed out that the actual revenue from domestic consumers would be higher by Rs 168.43 Cr than what was projected by KSEB based on the study carried out by us. Though our efforts were appreciated by the Hon'ble' Commission, our arguments were not taken into consideration, while deciding the revenue from the domestic consumers.

20) We request the Hon'ble Commission to revise the expected revenue from domestic consumers by Rs. 168.43 Cr.

21) We would also like to point out that the C& AG audit would not bring out the actual position regarding this discrepancy. We request the Hon'ble Commission to initiate an independent study to verify the correctness of the revenue from domestic consumers projected by KSEB.

For and on behalf of
The Kerala High Tension and Extra High Tension
Industrial Electricity Consumers' Association.

K. K. George,
Secretary

27th June 2011.