

KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Present : Shri T K Jose, Chairman
Shri B Pradeep, Member
Adv. A.J Wilson, Member

Petition: OP No. 64/2022

In the matter of : Petition seeking approval of Average Pooled Power Purchase of KSEBL for the years 2019-20 and 2022-23 and seeking clarifications in the KSERC (Renewable Energy and Net Metering Regulations) (First Amendment), Regulations,2022.

Petitioner : Kerala State Electricity Board Ltd (KSEB Ltd)

Petitioner represented by : Shri. M.P.Rajan, Dy. CE, KSEB Ltd
Smt. Latha.S.V, AEE, KSEB Ltd

Date of hearing : 04.01.2023, 11:00 AM

Venue : e-hearing through video conferencing

Order dated 23.02.2023

1. M/s Kerala State Electricity Board Ltd (herein referred as M/s KSEB Ltd or petitioner), filed a petition before the Commission on 26.09.2022 with the following prayers;
“
 - (1) Approval may kindly be granted for APPC for the year 2019-20
 - (2) Approval may kindly be granted for APPC for the year 2022-23
 - (3) Clarifications may kindly be issued on the settlement period for Solar prosumers.
 - (4) The discrepancies on excess energy to be settled as mentioned in the True up orders 2019-20 and 2020-21 may kindly be corrected.
 - (5) RPO targets may kindly be revised in line with MoP notification dated 22-7-2022.”
2. Summary of the petition filed by petitioner is given below.
 - (1) Regulation 20 of KSERC (Renewable Energy and Net Metering) Regulations,2020 (herein after referred to as RE Regulations, 2020) stipulates that in case the energy injected by the prosumer from the

renewable energy system exceeds the energy consumed by him from the distribution licensee during the billing period, such excess energy is allowed to be banked with the distribution licensee and to be carried forward to the subsequent billing periods of the settlement period.. The relevant regulation is extracted below.

"20. Banking facility for prosumers.- (1) In case the energy injected by the prosumer from his renewable energy system exceeds the energy consumed by him from the distribution licensee during the billing period, such excess energy is allowed to be banked with the distribution licensee and to be carried forward to the subsequent billing periods of the settlement period."

- (2) Further as per Regulations 26(5), 27(7) and 29(4) of the RE Regulations, 2020, the distribution licensee shall at the end of the settlement period pay for the excess energy banked by the prosumers and captive consumers at the Average Pooled Power purchase Cost (APPC) of the licensee as approved by Commission from time to time. The relevant provisions of the Regulations are extracted below.

"26(5) The licensee shall pay, within one month, for the net surplus energy available at the credit of the prosumer at the end of the settlement period as per sub Regulation (4) above, at the Average Pooled Power Purchase Cost (APPC) of the licensee approved by the Commission, from time to time.

27 (7) The licensee shall pay, within one month, for the net surplus energy available at the credit of the prosumer at the end of the settlement period as per sub Regulation (4) above, at the Average Pooled Power Purchase Cost (APPC)of the licensee approved by the Commission, from time to time.

29(4) The licensee shall pay for the net electricity banked by the prosumer/ captive consumer at the end of the settlement period, at the Average Power Purchase Cost (APPC) approved by the Commission;"

- (3) As per the Regulation 2(1)(bk) of the RE Regulations, 2020, the "settlement period" means the period beginning from first day of October and ending with thirtieth day of September in the next Year for solar and for non-solar sources, the period from the first day of April in a year to the thirty first day of March in the next calendar year.

"2(1)(bk) 'Settlement Period' means, the periods for the purpose of accounting of electricity from the following categories of renewable sources,- (i) from solar sources, the period from the first day of October in a Gregorian calendar year to the thirtieth day of September in the next calendar year; and (ii) from non-solar sources, the period from the first day of April in a Gregorian calendar year to the thirty first day of March in the next calendar year;"

Subsequently, the Commission vide the amendment notification dated 15th July 2022 to the RE Regulations, 2020, has revised the settlement period as follows;

“Settlement Period” for the purposes of these Regulations is the period from the first day of April in a Gregorian calendar year to the thirty first day of March in the next calendar year.

Average Pooled Power Purchase Cost for the year 2019-20

- (4) KSEB Ltd submitted that, the Commission had not approved the APPC for the years 2018-19 to 2021-22 in the MYT Order dated 08.07.2019.

Hence KSEB Ltd had computed the ‘Average Pooled Power Purchase Cost’ of KSEB Ltd for the year 2019-20’ @ Rs 2.85/unit, based on the methodology stipulated in the Regulations and Orders issued by the Commission.

However, the Commission vide the order dated 21-6-2022 in OP 22/2022 in the matter of truing up for FY 2019-20 has not allowed the payment effected to the prosumers for settling the surplus energy settled during the FY 2019-20 @Rs 2.85/unit and issued certain directions to KSEB Ltd for immediate compliance. The relevant portion of the Order is extracted below.

“5.34

(3) KSEB Ltd had also claimed that, it had purchased 8.74 MU at the APPC of Rs.1.47 crore during the year 2019-20. It is not understood as to how KSEB Ltd without any authority and disregarding the essential procedures of filing a petition has unilaterally and without even holding any public consultation decided the APPC. This is a serious violation and therefore the Commission does not allow it at present. Further, the Commission hereby directs KSEB Ltd to file a proper petition before this Commission for determination of the APPC for this period within 3 months of the date of issue of this Order. The Commission further directs that till the Commission decides the APPC for the year 2019-20, the amount of Rs.1.47 crore shall not be recovered from the prosumers.”

- (5) In compliance of the direction of the Commission, KSEB Ltd estimated the APPC for the year **2019-20 @ Rs 2.97/unit**, by adopting the ‘cost of power purchase including cost of self generation’ approved in the Truing Up of Order for the year 2018-19.

Settlement of excess energy injected by Prosumers/ Captive consumers for the year 2020-21

- (6) Regarding the surplus banked energy of the prosumers/ captive consumers settled during the year 2020-21, the Commission vide order dated 24-6-2022 in Petition No: OP 23/ 2022 (True-up petition for 2020-21) has issued following directions:

“5.30

(5) KSEB Ltd had also claimed that, it had purchased 41.00 MU and incurred Rs 6.26 crore at the rate of APPC during the year 2020-21.

The Commission notes that, as per the KSEB Ltd's above claim, the average APPC works out to Rs 1.53/unit only. Further, the Commission in OP No. 51/2021, filed by KSEB Ltd had ordered to pay the prosumers at Rs 3.22/unit. The review petition filed by KSEB Ltd against this order has also been dismissed by the Commission. Hence, the actual liability due to purchase of 41 MU from prosumers comes to Rs 13.20 crore. Further, KSEB Ltd in their petition has claimed Rs 6.26 crore as paid to the prosumers during the year 2020-21. Hence, balance amount due to the prosumers for their injection of additional energy into the KSEB Ltd grid works out to Rs 6.94 crore. The Commission hereby approves the total cost of Rs. 13.20 crore as the total amount to be settled to the prosumers for purchase of 41 MU and directs KSEB Ltd to adjust the prosumers account within three months of the date of this Order at the Commission approved rate of Rs.3.22/unit.”

In this regard, KSEB Ltd clarified that, the total net injection of 41 MU given in the audited accounts and Truing up petition is the total excess energy injected by the prosumers from 1st April 2020 to 31st March 2021 in the FY 2020-21. However, the actual solar energy settled during the period from 1st October 2019 to 30th September 2020 was 12.86MU only. The discrepancy in the total energy injected during the FY 2020-21 and the quantum of net injected energy settled and payment arranged was due to the 'settlement period' as per the RE Regulations, 2020. KSEB Ltd requested to consider these aspects and to issue appropriate orders.

Average Pooled Power Purchase Cost for 2022-23.

- (7) KSEB Ltd submitted that, the Commission has not approved the APPC for the year 2022-23, for settling the excess surplus energy banked by the prosumers upto 30th September-2022 (in the case of solar prosumers) and 31st March 2022 in the case of other RE prosumers.

Hence, KSEB Ltd estimated the APPC for the year 2022-23 based on the audited accounts of KSEB Ltd for the year 2021-22 @ Rs 2.69/unit. KSEB Ltd requested before the Commission to approve the APPC for the year @Rs 2.69/unit for settling the excess energy banked by the prosumers and captive consumers at the end of the settlement period as per Regulations

26(5), 27(7) and 29(4) of the KSERC (Renewable Energy and Net metering) Regulations, 2020.

Clarifications in KSERC (Renewable Energy & Net Metering) (First Amendment) Regulations,2022

(8) Clarifications on ‘Settlement period’:

KSEB Ltd submitted that, as per Regulation 1(2) of the KSERC (Renewable Energy & Net Metering) (First Amendment) Regulations,2022, defines the settlement period as follows;

“Settlement Period” for the purposes of these Regulations is the period from the first day of April in a Gregorian calendar year to the thirty first day of March in the next calendar year.

However, in the parent Regulation, KSERC (Renewable Energy & Net Metering) Regulations,2020, the “settlement period” means the period beginning from first day of October and ending with thirtieth day of September in the next Year for solar sources. For non-solar sources, settlement period is the period from the first day of April in a year to the thirty first day of March in the next calendar year.

The KSERC (Renewable Energy and Net metering) (First Amendment) Regulations, 2022, come into force from 01.08.2022. KSEB Ltd submitted that, therefore, for the Solar systems installed before 1-8-2022, the ‘Settlement period end ‘is 30th September and for solar systems installed after 1-8-2022, the ‘Settlement period’ end is 31st April. As this may lead to ambiguity in the settlement as well as practical difficulty in following two different accounting and settlement systems for the solar prosumers, it was requested to issue a clarification for the same.

(9) Other matters: Revision of RPO target in line with MoP notification dated 22-7-2012.

KSEB Ltd has submitted that as per the Renewable Purchase Obligation and Energy Storage Obligation trajectory notified by MoP on 22-7-2022 for the years from 2022-23 to 2029-30, separate ‘Solar RPO’ has been dispensed with. As per the said notification, there are only Wind RPO, HPO and other RPO. Since State has huge hydro potential, other RPO can be met without solar addition. Therefore, it is was requested to modify the RPO targets notified by KSERC (Renewable Energy & Net Metering) (First Amendment) Regulations,2022 in line with the MoP notification.

3. The Commission admitted the petitions as OP No 64/2022. Public hearing on the petition was conducted on 04.01.2023. Sri. M.P. Rajan, Deputy Chief Engineer and Smt. Latha S.V, AEE, presented the matter on behalf of the petitioner KSEB Ltd. The summary of the deliberations during the hearing is given below,

- (1) KSEB Ltd submitted the following during the hearing.
- (i) The Commission had not approved APPC for the year 2019-20 vide the MYT order dated 8-7-2019. Therefore, KSEB Ltd computed APPC (based on KSERC orders 30-9-2014 in OP 9/2014 & Suo-motu order dated 17-4-2017 and also based on the cost of power purchase approved in the MYT order dated 08.07.2019 @ Rs.2.85/unit.
 - (ii) However, Commission in Order dated 21-6-2022 in OP 22/2022 in the matter of truing up for the year 2019-20 had directed KSEB Ltd to file a proper petition before the Commission for determination of the APPC for 2019-20.

In compliance of the direction of the Commission, KSEB Ltd has computed the APPC for the year 2019-20 based on the order dated 16-2-2022 in Petition No: OP 51/ 2021 and the cost of power purchase approved by the Commission vide the Order dated 14/06/2022 in OA.No.13/2020 for the year 2018-19 @ Rs 2.97/unit.

- (iii) KSEB Ltd further submitted that the APPC for 2022-23 was arrived at Rs 2.69/unit as per the audited accounts for 2021-22 as per the Regulation 2(1) (da) of KSERC RE Amendment Regulations 2022.
- (iv) KSEB Ltd also submitted that certain discrepancies were noticed in the excess energy as per the Truing Up petitions for the year 2019-20 and 2020-21, and the actual energy settled as per the accounts.

As per the Orders on Truing up, the excess energy for 2019-20 and 20-21 are 8.74 MU and 41 MU respectively but the actual excess energy by prosumers/captive consumers at settlement period end are 5.06 MU and 12.86 MU. KSEB Ltd further clarified that, the total net injection given in the audited accounts and truing up petition is the total excess energy injected by the prosumers from 1st April to 31st March in the corresponding financial years.

However, the actual solar energy settled during the period was from 1st October to 30th September of following year. This discrepancy is due to the 'settlement period' as per the RE Regulations, 2020. KSEB Ltd requested to consider these aspects and to issue appropriate orders.

- (v) KSEB Ltd further submitted that, the Commission vide the notification dated 15.07.2022 has notified the KSERC (Renewable Energy and Net metering) (First Amendment) Regulations, 2022, which came into force from 01.08.2022 (herein after referred to as RE Amendment Regulations, 2022). As per the RE (Amendment)

Regulations, 2022, for the Solar systems installed before 1-8-2022, the 'Settlement period end' is 30th September and for solar systems installed after 1-8-2022, the 'Settlement period' end is 31st April. As this may lead to ambiguity in the settlement as well as practical difficulty in following two different accounting and settlement systems for the solar prosumers, it was requested to issue a clarification for the same.

- (vi) KSEB Ltd further submitted that the Ministry of Power on 22-7-2022 notified the RPO targets to be met by the distribution licensees and other obligated entities for the years from 2022-23 to 2029-30. As per the notification, there were only Wind RPO, HPO and other RPO. The Solar RPO also included under other RPO and no separate RPO prescribed for Solar. Hence, KSEB Ltd requested before the Commission to modify the RPO targets notified by KSERC (Renewable Energy & Net Metering) (First Amendment) Regulations, 2022 in line with the MoP notification.
- (2) Shri Shaji Sebastin, submitted that the petition lacks clarity and is non-specific. The APPC and the RPO targets are entirely two different matters and hence separate petition needs to be filed by KSEB Ltd for fixing the RPO targets. The request of KSEB Ltd to fix the RPO targets in line with MoP notification, is highly impractical. KSEB Ltd has not been able to meet even their current targets. Moreover, no data has been submitted by KSEB Ltd so far regarding RPO targets so far met by them.

M/s Shaji Sebastin further presented his viewpoints on the metering arrangements to be provided on the AC side of the inverter.

The Commission clarified that, the issues raised by Mr. Shaji Sebastian can be addressed while amending the KSERC (Renewable and Net metering) Regulations, 2020.

- (3) Smt Neenu Skaria, Consultant, Electro Techno Legal Services Pvt Ltd pointed out the irrelevance of redetermining the APPC rate for FY 2019-20 after two years. There is also lack of clarity in the APPC rate arrived for FY 2022-23. It was also submitted that, the new solar settlement period that starts on 1st April and ends on 31st March of the following year was more convenient for solar prosumers.
- (4) Shri Jacob Cheriyan, Malayalam Manorama submitted that, they own a 10 MW Captive wind plants at Palakkad. The Commission has already determined the APPC for the year 2022-23 vide the Order dated 25.06.2022 @ Rs 3.47/unit.

Shri Jacob Cheriyan further submitted that, there is no relevance of redetermining the APPC rate for FY 2019-20 as two years has already elapsed. Mr Jacob Cherian requested before the Commission to reject the petition and direct KSEB Ltd to submit separate petition for revising the RPO targets of the State.

- (5) Shri Prabhakaran, on behalf of the HT&EHT Association submitted that, the Commission had already determined the APPC for the year 2022-23 vide the Order dated 25.06.2022. He expressed concern that while the Central Government was promoting solar energy, the policies of the KSEB Ltd were against solar power.
- (6) Shri Varghese, KREEPA submitted that the world is moving towards green economy. The attempt to reduce the APPC less than the present rate will discourage solar investors in the State. The average AAPPC within India is Rs 3.75/unit. Hence, KREEPA requested before the Commission to rework the APPC rate for 2022-23, so that it will be attractive to investors.

It was further submitted that the Consumption within the state is increasing at a rate of 5% every year. The EV vehicle population within the state also increasing at a tremendous rate and it will double by 2030.

As per the target of the Gol, by the year 20230, 50% of the total energy requirement shall be from renewable resources, therefore KSEB Ltd shall consider policies to promote renewable energy. He also submitted that, it is not easy to meet the RE requirements of the State by hydro projects alone.

- (7) Shri Mithun Jacob, domestic consumer submitted that despite his net unit consumption being reduced to zero, he was charged the fixed charge corresponding to 400 units (the total consumption). The Commission during the hearing clarified that individual consumer grievances shall be taken up directly with KSEB Ltd.
- (8) Shri Tinsu Mathew, MASTERS, submitted that, many news articles related to gross metering are published in many newspapers as well as social media websites of KSEB Ltd has a negative impact on all the solar installation in the state.
- (9) Shri Shibu Kurian, AGM, Travancore Cochin Chemicals Ltd submitted that as an open access consumer they have RPO. He requested before the Commission not to take any decision that would be detrimental to the solar prosumers within the state.
- (10) Sri Terrance Alex, KREEPA submitted that the solar projects have major significance in the current socio-economic climate in the state of Kerala. He

requested before the Commission to reject the petition of KSEB Ltd to dispense with Solar RPO.

(11) KSEB Ltd clarified that, the average power purchase for the year 2022-23 as per the MYT Order dated 25.06.2022 is the average cost of power purchase approved by the Commission as part of determination of the ARR,ERC and Tariff for the MYT period from 2022-23 to 2026-27. This is only an estimate. However, as per the RE Regulations,2020 and its amendment dated 15th July 2022, the APPC for settling the banked energy at the end of the settlement period is the actual 'Average Power Purchase Cost (APPC) of the previous year concerned. Hence KSEB Ltd cannot adopt the 'average power purchase cost' as per the MYT Order dated 25.06.2022 for settling the banked energy by the prosumers at the end of the settlement period.

(12) Based on the deliberations during the hearing, the Commission has directed the petitioner KSEB Ltd to submit the following clarifications by return.

(i) The reasons for the difference between the APPC @Rs 2.85/unit estimated earlier and the APPC @Rs 2.97/unit estimated in the instant petition for the FY 2019-20.

(ii) Item wise comparison of the APPC @Rs 3.22/unit approved by the Commission vide the Order dated 16.02.2022 in OP No. 51/2021 for the year 2021-22 and the APPC @2.69/unit estimated for the year 2022-23 in the instant petition.

(iii) Reasons for the huge difference in the banked energy at the end of the settlement period and financial year end.

(iv) Whether the KSEBL system can carryout settlement of banked energy at the end of settlement period, initially at provisional APPC and subsequently can revise with final APPC based on Truing up of Accounts.

4. In compliance of the directions of the Commission, KSEB Ltd vide the letter dated 13.01.2023 submitted the following.

(1) Item No.1. The reasons for the difference between the APPC @Rs 2.85/unit estimated earlier and the APPC @Rs 2.97/unit estimated in the instant petition for the FY 2019-20.

(i) KSEB Ltd submitted that, the APPC @Rs 2.85/unit for the year 2019-20 was earlier estimated based on the power purchase approved by the Commission vide MYT Order dated 08.07.2019 as part of

approval of ARR, ERC and Tariff for the period from 2018-19 to 2021-22.

Further, while computing the APPC @Rs 2.85/unit, KSEB Ltd has also excluded the power purchase from RE sources as was done earlier.

- (ii) However, the APPC @Rs 2.97/unit in the instant petition was determined based on the cost of power purchase as per the Truing Up order of the Commission dated 14.06.2022 in Petition OP No. 13/2020 for the year 2018-19.

KSEB Ltd further submitted that, the Commission vide the Order dated 16.02.2022 in Petition OP 51/2021 had determined the APPC for 2021-22, wherein the total cost of power purchase including the RE sources were considered for determining the APPC.

The details are given below.

Comparison of the APPC estimated by KSEB Ltd in the instant petition and computed earlier

SI No	Description	Claim in the instant petition (Based on TU order 2018-19)		APPC computed & adopted based on MYT Order dated 08.07.2019	
		Quantity	Cost	Quantity	Cost**
		(MU)	(Rs in Cr)	(MU)	(Rs in Cr)
	Own Generation				
	Hydel	7602.41	470.26	7536.76 (Large hydro only)	450.88 (excl RE)
	BDPP+KDPP	4.09		0	
	Wind	1.33		0	
1	Solar	18.54		0	
	Sub Total	7626.37			
	Less auxiliary consumption	33.25		82.05 (auxl excl RE's)	
	Net Own Generation	7593.12		7454.71	
	Power Purchase				
	(1)CGS (at Kerala periphery)	9241.09	7183.69	10255.41	3684.51
	(2)RGCCPP	0.81			200.00
	(3)Small IPPs within the State(Wind, SHP, Solar etc)	282.46		7999.31	3319.64
	(4)LTA-Maithon & DVC	2718.7			
	(5)LTA-Approved DBFOO	2044.36			

	(6)LTA-Provisionally approved DBFOO	655.21			
	(7)LTA unapproved DBFOO	2233.78			
2	(8)Power Exchanges	476.99			
	(9)Swap	142.77			
	(10)DSM	252.45			
	(11) Compensation to PTC BALCO				
	Sub Total	18048.62			
3	Total	25641.74	7653.95	25709.43	7004.15
	Less surplus Sale				
4	Sale through contracts	-144.16	-333.96	-1513.27	-756.64
5	Sale through Exchanges	-680.63			
6	Swap return	-168.02	2.28		
7	Net Generation & PP for KSEB use	24648.93	7322.23	24196.16	6898.39
	Average Pooled Cost of Power Purchase (Rs/unit)		2.97	2.85	

- (2) **Item No.2. Item wise comparison of the APPC @Rs 3.22/unit approved by the Commission vide the Order dated 16.02.2022 in OP No. 51/2021 for the year 2021-22 and the APPC @2.69/unit estimated for the year 2022-23 in the instant petition.**

KSEB Ltd has estimated the APPC for the year 2022-23 based on the audited accounts of the year 2021-22, where as the Commission had approved the APPC for the previous year 2021-22 based on the audited accounts of the year 2020-21. There was considerable increase in hydro generation and surplus sale during the year 2021-22 when compared to the previous year 2020-21. The details are given below.

Comparison of the APPC estimated by KSEB Ltd for the year 2022-23 and the APPC approved by the Commission for 2021-22

SI No	Description	APPC for 2022-23 claimed in the instant petition (Based on audited accounts 2021-22)		APPC approved for 2021-22 vide the Order dtd.16-2-2022 in Petition No: OP 51/ 2021	
		Quantity	Cost	Quantity	Cost
		(MU)	(Rs in Cr)	(MU)	(Rs in Cr)
1	Own Generation				
	Hydel	9836.91	647.20	7071.37	648.76
	BDPP+KDPP	0.00		7.85	
	Wind	1.16		1.14	
	Solar	20.20		28.73	
	Sub Total	9858.27		7109.09	
	Less auxiliary consumption	95.22		51.19	

	Net Own Generation	9763.05		7057.9	
2	Power Purchase				
	(1)CGS (at Kerala periphery)	9505.47		9167.26	
	(2)RGCCPP	0.00		92.53	
	(3)Small IPPs within the State(Wind, SHP, Solar etc)	453.90		296.18	
	(4)LTA-Maithon & DVC	2790.09			
	(5)LTA-Approved DBFOO	1890.83			
	(6)LTA-Provisionally approved DBFOO	707.36		8104.65	
	(7)LTA unapproved DBFOO	2333.01	7407.13		7439.15
	(8)Power Exchanges	64.24		94.71	
	(9)Swap	52.76		122.28	
	(10)DSM	-95.68		139.43	
	(11) SECI Wind	198.63			
	(12) JITPL through PTC	503.51			
	(13) Short term	183.69		167.02	
	Sub Total	18587.81		18184.06	
3	Total (1)+(2)	28350.86	8054.34	25241.96	8087.91
	Less surplus Sale				
4	Sale through contracts	0.00	-1024.31	-261.43	-102.5
5	Sale through Exchanges	-2094.41			
6	Swap return	-106.28		-334.82	
	Disallowed amount (DBFOO for 1 st and 2 nd quarter)				-51.06
7	Net Generation & PP for KSEB use	26150.17	7030.03	24645.71	7934.35
	Average Pooled Cost of Power Purchase (Rs/unit)		2.69	3.22	

(3) Item No.3. Reasons for the huge difference in the banked energy at the end of the settlement period and financial year end for the years 2019-20 and 2020-21.

KSEB Ltd submitted that, for the financial years 2019-20 and 2020-21, the settlement period for solar prosumers is from 1st October to 30th September of the next year. The surplus energy at the credit of the prosumer as on 30th September is settled at APPC of the relevant year. The settlement details of the banked energy by prosumers/ captive consumers during the FY 2019-20 and 2020-21 is given below.