

KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Present: Shri. Preman Dinaraj, Chairman
Shri. S. Venugopal, Member

Petition No. OP No. 62/2019

In the matter of : Petition under Regulation 77(3)(f) of the KSERC
(Terms and Conditions for Determination of Tariff)
Regulations 2018 seeking approval for entering
into short term power procurement arrangement
through banking transactions during the period
from February 2020 to September 2020 with PTC
India Ltd. and BSES Yamuna Pvt. Ltd.

Petitioner : Kerala State Electricity Board Limited

Petitioner represented by : Shri. K.G.P. Nampoothiri, Executive Engineer,
TRAC
Smt. Sangeetha S, Executive Engineer,
Commercial
Smt. Meena C, Asst: Executive Engineer,
Commercial

Order dated 14.01.2020

1. Kerala State Electricity Board Limited (herein after referred as KSEB Ltd) filed a petition on 9.2.2019, for getting approval for entering into short-term power procurement arrangement through banking transactions during the period from February 2020 to September 2020 with PTC India Ltd and M/s BSES Yamuna Pvt Ltd (BYPL).
2. The summary of the petition filed by KSEB Ltd is given below.
 - (i) The anticipated peak power shortages and energy shortages from November-2019 to May 2020, estimated by KSEB Ltd is given below.

Month	Peak shortage (-)/ surplus (+)	Energy shortage (-)/ surplus (+)
	(MW)	(MU)
Nov-19	-176	-15
Dec-19	-265	-1
Jan-20	-225	40
Feb-20	-336	-123
Mar-20	-493	-190
Apr-20	-544	-209
May-20	-570	-246

KSEB Ltd further submitted that,

- Consumption and demand growth has been worked out based on last 10 years average growth, year on year basis.
 - Hydro availability is considered with normal monsoon and maintenance schedule.
 - 100MW credible outage in hydro availability is considered during peak hours, based on performance history.
 - CGS and LTA availability is taken assuming no major additions and after accounting for 10% credible outage besides their normal maintenance schedule, based on performance history.
- (ii) Inorder to overcome the anticipated power and energy shortages in the summer months, KSEB Ltd decided to tie-up 50% of the shortage through SWAP/ DEEP portal and the balance 50% through Day ahead market in Power Exchanges as required based on market trends.
- (iii) The Commission vide the order dated 24.10.2019 in OP No.49/2019 for granting approval for banking transactions made during the months of Feb-2019, Mar-2019 and Apr-2019, directed as follows.
- “henceforth, as and when KSEB Ltd intends to go for banking/ swap arrangements for meeting the power requirements of the State, it shall invite bids/offers through their website with wide publicity so that better offers can be got for banking/ swapping transactions”.*
- (iv) KSEB Ltd decided to invite Expression of Interest (EOI) for banking power with traders/utilities with supply period from Feb-2020 to May-2020 and return period from ‘mid-June 2020 to Sep-2020’.
- Accordingly, the draft EOI was finalised and uploaded at the website of KSEB Ltd for banking power with KSEB Ltd during the period from 01.02.2020 to 30.09.2020. Wide publicity of the EOI was made by publishing the same through National dailies.
- (v) The summary of the offers received from traders and utilities for banking power with KSEB Ltd is given below.

Trader	Utility	Supply Period	Quantum	Duration	Return Period	Return Duration	Return %	Trading Margin (paisa/kWh)
			(MW)					
PTC	TPDDL	Feb-20	50	RTC	16-06-2020 to 30-09-2020	0-4 & 17-18.30 & 22.30-24.00 (uniformly distributed)	102%	2.98
			100	0-6				
			100	20-24				
		Mar-20	50	RTC				
			100	0-6				
			100	20-24				
		Apr-20	50	RTC				
			100	0-6				
			25	18-23				
Utility	BYPL	16-02-20 to 31-03-20	75	RTC	15-06-2020 to 30-09-2020	0-2 & 14-17 & 22-24 (uniformly distributed)	103%	NA
GMRETL	HARYANA	01-02-20 to 31-03-20	85	RTC	16-06-2020 to 30-09-2020	RTC	104%	2.94
Kreate	CESC	Feb-20	100	RTC	16-06-2020 to 30-09-2020	10-24	95%	3.00
		Mar-20	75	1-5				

- (vi) The offers were evaluated as per the evaluation criterion specified in the EoI. The net score obtained against the eligible offers which satisfy the conditions specified in the EoI are as follows.

Sl.No.	Trader/Utility	Net score
1	PTC- TPDDL	22.52
2	BYPL	8.3
3	GMRETL- Haryana	6.77
4	Kreate- CESC	-3.62

- (vii) KSEB Ltd further submitted that, a significant portion of the anticipated shortage of power during the months of February and March 2020 can be met from the supply offered by PTC Ltd and BYPL. The quantum of power to be returned by KSEB Ltd from 16.06.2020 to 30.09.2020 is as given below.

Trader	Return Period	Return Duration	Avg. Power to be returned
TPDDL	16-06-2020 to 30-09-2020	0-4 & 17-18.30 & 22.30- 24.00 (uniformly distributed for 7 hrs)	258 MW
BYPL	-do-	0-2&14-17& 22-24.00 (uniformly distributed for 7 hrs)	114 MW

- (viii) Subsequently, KSEB Ltd requested the traders/utilities with maximum score, viz, the M/s PTC India Ltd and M/s BYPL to align with the following requirements of KSEB Ltd.
- (a) Due to the limitations in absorbing 100 MW during off-peak hours from 0:00 hrs to 06:00 hrs during Feb-2020 along with the RTC power, PTC was requested to reduce their supply to 50 MW instead of 100 MW. KSEB Ltd also requested PTC to extend the peak hour supply in the month of March 2020 from 18:00 to 24:00 hrs instead of 20:00 to 24:00 hrs.
- PTC accepted the request, except the additional peak hour supply from 18:00 hrs to 20:00 hrs was limited to 50MW instead of 100 MW
- (b) KSEB Ltd requested BYPL to increase the duration of the return period from 7 hours to 9 hrs, so as to bring down the quantum of the banked power to be returned. M/s BYPL also accepted the request of KSEB Ltd.
- (ix) The delivery point in both the offers (offer by PTC India Ltd and BYPL) is at Regional periphery of the exporting utility during supply as well as return period.
- (x) KSEB Ltd requested before the Commission for approval to enter into banking transactions with the trader PTC India Ltd and the utility BSES Yamuna Private Ltd for meeting the anticipated electricity shortage from February 2020 to May-2020, and to return the power from June-2020 to September-2020, as detailed in the Tables below.

Proposed Banking transactions with PTC India Ltd

Supply from PTC- TPDDL to KSEBL			Return from KSEBL to PTC-TPDDL			
Supply Period	Quantum	Duration	Return Period	Duration	Return %	Trading Margin (ps/kWh)
	(MW)	(hrs)		(hrs)		
01-02-2020 to 29-02-2020	50	RTC	16-06-2020 to 30-09-2020	0-4 &, 17:00 to 18:30 & 22:30 to 24:00 (uniformly distributed)	102%	2.98
	50	0-6				
	100	20-24				
01-03-2020 to 31-03-2020	50	RTC				
	100	0-6				
	50	18-20				
01-04-2020 to 30-04-2020	100	20-24				
	50	RTC				
	100	0-6				
	25	18-23				

Proposed Banking transactions with BYPL

Supply from BYPL to KSEBL			Return from KSEBL to BYPL			
Supply Period	Quantum	Duration	Return Period	Duration	Return %	Trading Margin (ps/kWh)
	(MW)	(hrs)		(hrs)		
16-02-2020 to 29-02-2020	75	RTC	16-06-2020 to 30-09-2020	0:00 to 03:00 & 13:00 to 17:00 & 22:00 to 24:00 hrs (uniformly distributed)	103%	NIL
01-03-2020 to 31-03-2020	75	RTC				

3. The petition is admitted as OP No. 62/19. The Commission vide the letter dated 30.12.2019 sought the following additional clarifications from KSEB Ltd on the petition.
- (1) Whether any financial evaluation has been done by KSEB Ltd prior to choosing the swap option. If so a copy of the same to be produced?
 - (2) How did KSEB Ltd arrive at the ratio of 50:50 on Exchange : Swap criteria? What were the other options looked at and how this criteria was arrived at ?

4. In compliance with the directions of the Commission, KSEB Ltd vide the letter dated 03.01.2020 has submitted the additional clarifications and its summary is given below.

- (1) The core committee, the committee constituted to make timely proposals regarding optimum utilization of power market meeting held 29.10.2019, has appraised in detail the Load Generation Balance and estimate of the energy and peak shortages for the remaining months upto May-2020. The peak shortages expected during the summer months is in the tune of 490 MW to 570 MW.

The options available to meet the expected power deficit are the following.

- (a) Banking transactions (firm power)
 - (b) Short term power purchase (firm power)
 - (c) Power Exchange
 - (d) Un Requisitioned Surplus (URS) in Southern Region
 - (e) Medium term power purchase (firm power)
- (2) Tying up firm power in advance against the entire expected power deficit was risky as the demand projections are dependent on the climatic / temperature conditions. Further the supply projections are dependable on the machine availability and transmission corridor availability.
 - (3) Depending entirely on power exchanges and un-requisitioned surplus (URS) to meet the entire deficit of around 500 MW is risky considering the volatility in prices and corridor congestion etc.

Considering these reasons, KSEB Ltd decided to meet the 50% of the expected total deficit from firm power sources and the balance power deficit from power exchanges and URS, as and when required.

- (4) The swap option was evaluated based on the last two years average IEX price in the S3 region. Further, the swap option was arranged to suit the power requirement of the State, i.e., to get maximum power during the summer months from March-2020 to May-2020, and to return the power during the off-peak hours. Further, comparing the opportunity price of banking transactions (getting the power during peak power and RTC power during summer months and return the same during off-peak hours of monsoon months power surplus with KSEB Ltd) is relatively low compared to the short-term power purchase through DEEP portal.
5. Hearing on the petition was held at the court hall of the Commission on 06.01.2020. Sri. K. G. P. Nampoothiri presented the petition on behalf of KSEB Ltd. Smt Sangeetha and Smt Meena answered to the queries on the petition. Based on the deliberations during the hearing, the Commission directed KSEB Ltd to submit the details of the evaluation on the offers

received on the EoI invited for banking transactions. KSEB Ltd submitted the same on 07.01.2020.

Analysis and Decision

6. The Commission has examined in detail the petition filed by KSEB Ltd for the approval of the short term power procurement arrangement through banking transactions during the period from February 2020 to September 2020, as per the provisions of the Electricity Act, 2003 and Tariff Regulations, 2018.
7. The Regulation 77 of the Tariff Regulations, 2018 deals with 'Additional short-term power procurement' including 'banking transactions'. The relevant Regulation is extracted below.

"77. Additional short-term power procurement.–(1) The distribution business/licensee may undertake additional short-term power procurement during the financial year, over and above the power procurement plan approved by the Commission, in accordance with this Regulation.

(2) (a) Where there has been a shortfall or failure in the supply of electricity from any approved source of supply during the financial year, the distribution business/licensee may enter into an agreement for additional short-term procurement of power.

(b) If the total power purchase cost for any quarter including such short-term power procurement exceeds by five percent of the power purchase cost approved by the Commission for the respective quarter, the distribution business/licensee shall have to obtain approval of the Commission.

(3) The distribution business/licensee may enter into a short-term power procurement agreement or arrangement under the following circumstances subject to the ceiling tariff approved by the Commission:

(a) where the distribution business/licensee is able to source new short-term source of supply from which power can be procured at a tariff that reduces its approved total power procurement cost;

(b) when faced with emergency conditions that threaten the stability of the distribution system or when directed to do so by the State Load Despatch Centre to prevent grid failure.

(c) where the tariff for power procured under such agreement or arrangement is in accordance with guidelines for short-term procurement of power by distribution licensees through tariff based bidding process issued by the Central Government:

(d) when there is any contingency situation and power purchase price is within such ceiling price;

(e) procurement of short-term power through power-exchange; and

(f) procurement by way of exchange of energy under 'banking' transactions.

Provided that prior approval of the Commission and the ceiling rate shall not be applicable to the short term purchases under sub regulation (b) and (e) above.

(4) The Commission may stipulate the ceiling quantum and ceiling rate for purchase of power from short-term sources.

(5) Within fifteen days from the date of entering into an agreement or arrangement for short-term power procurement for which prior approval has not been obtained, the distribution business/licensee shall obtain the approval of the Commission by submitting full details of such agreement or arrangement, including quantum, tariff calculations, duration, supplier details, method for supplier selection and such other details as the Commission may require to assess that the conditions specified in this Regulation have been complied with."

8. The Commission has examined the appraisal of the electricity demand and supply position estimated by KSEB Ltd during the period from November-2019 to September-2020. The summary of the anticipated peak power shortage and energy shortage estimated by KSEB Ltd is given below.

Month	Peak shortage (-)/ surplus (+)	Energy shortage (-)/ surplus (+)
	(MW)	(MU)
Nov-19	-176	-15
Dec-19	-265	-1
Jan-20	-225	40
Feb-20	-336	-123
Mar-20	-493	-190
Apr-20	-544	-209
May-20	-570	-246

9. KSEB Ltd proposed to meet 50% of the anticipated energy shortage from firm sources such as banking transactions and/or short-term power purchase through DEEP portal. KSEB Ltd further submitted that, arranging power through banking arrangements, i.e., 'for getting peak power and round the clock (RTC) power during summer months and return the same during monsoon months when surplus hydro power available', has given high priority than short term power purchase through DEEP portal. The return period is mainly aligned to the period of power surplus when the availability of zero marginal cost hydropower is available. Commission noted the submission of KSEB Ltd. However, it must be noted that, if there is failure in monsoon, and/or there is shortage in energy

availability from CGS and/or long- term power purchase contracts during the return period, KSEB Ltd may find it difficult to return the power as per the contracts. Hence KSEB Ltd shall evolve appropriate strategy to return the banked power in such contingencies and shall get approval of the Commission sufficiently in advance.

10. Commission has also examined the procedure followed by KSEB Ltd for selecting the trader/ utility for the banking transactions. The Commission has also examined the evaluation criteria and the score assigned to the bidders in detail. KSEB Ltd has followed the procedures for selecting the trader and utility for banking transactions as per the procedures specified in the EoI.
11. The arrangements for banking transactions is for meeting the power requirement of the State from 01.02.2020 to 30.04.2020, mainly during peak hours of summer months in the State. The banked power is to be returned during off-peak hours of monsoon months from 16.06.2020 to 30.09.2020. Considering the entire aspects in detail, the Commission, approves the banking/swap arrangements made by KSEB Ltd for meeting the power requirements of the State during last summer months from February 2020 to April 2020.

Order of the Commission

12. The Commission, after examining the petition of KSEB Ltd dated 09.12.2019 and the additional submission dated 03.01.2020, hereby approves the following banking transactions made by KSEB Ltd for meeting the power deficit of the State during the summer months from February 2020 to April 2020 as detailed below.

- (1) To enter into banking arrangements with M/s PTC India Ltd with delivery point as 'regional periphery of exporting utility during supply as well as return period', as per the table below.

Supply from PTC- TPDDL to KSEBL			Return from KSEBL to PTC-TPDDL			
Supply Period	Quantum	Duration	Return Period	Duration	Return %	Trading Margin (ps/kWh)
	(MW)	(hrs)		(hrs)		
01-02-2020 to 29-02-2020	50	RTC	16-06-2020 to 30-09-2020	0-4 &, 17:00 to 18:30 & 22:30 to 24:00 (uniformly distributed)	102%	2.98
	50	0-6				
	100	20-24				
01-03-2020 to 31-03-2020	50	RTC				
	100	0-6				
	50	18-20				
01-04-2020 to 30-04-2020	100	20-24				
	50	RTC				
	100	0-6				
01-04-2020 to 30-04-2020	25	18-23				

- (2) To enter into banking arrangements with M/s BSES Yamuna Power Ltd (BYPL) with delivery point as 'regional periphery of exporting utility during supply as well as return period', as per the table below.

Supply from BYPL to KSEBL			Return from KSEBL to BYPL			
Supply Period	Quantum	Duration	Return Period	Duration	Return %	Trading Margin (ps/kWh)
	(MW)	(hrs)		(hrs)		
16-02-2020 to 29-02-2020	75	RTC	16-06-2020 to 30-09-2020	0:00 to 03:00 & 13:00 to 17:00 & 22:00 to 24:00 hrs (uniformly distributed)	103%	NIL
01-03-2020 to 31-03-2020	75	RTC				

The petition is disposed off. Ordered accordingly.

Sd/-
S.Venugopal
Member

Sd/-
Preman Dinaraj
Chairman

Approved for issue

C R Satheesh Chandran
Administrative Officer (in charge of the Secretary)