

Before the
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
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Case No. 151 of 2022

Petition of Brihanmumbai Electric Supply & Transport Undertaking (BEST) seeking approval for Tariff discovered through Competitive Bidding for Short -term bilateral Power purchase for the period August, 2022 to December, 2022.

Coram

Sanjay Kumar, Chairperson
I. M. Bohari, Member
Mukesh Khullar, Member

Brihanmumbai Electric Supply and Transport Undertaking: Petitioner

Appearance:

For Petitioner: Shri. N.N Chougule (Rep)

ORDER

Date: 24 August, 2022

1. Brihanmumbai Electric Supply and Transport Undertaking (**BEST**) has filed this Case on 21 July, 2022 under Sections 63 of the Electricity Act, 2003 (**EA, 2003**) seeking approval for Tariff discovered through Competitive Bidding for Short -Term bilateral Power Purchase for the period August, 2022 to December, 2022.
2. **BEST's main prayers are as under:**
 - a) *To admit the present Petition.*
 - b) *Hon'ble Commission may consider expediting hearing in the present Petition;*
 - c) *Hon'ble Commission may accord approval for tariff discovered through competitive bidding process undertaken by BEST for short term bilateral power purchase for the period from August, 2022 to December, 2022;*
 - d) *Hon'ble Commission may accord approval for power procurement from short term sources at the rate of Rs 8.00/kWh for FY 2022-23;*
..... ”

3. **BEST in its Petition has stated as follows:**

3.1 The Commission, vide its MYT Order in Case No. 324 of 2019 dated 30 March, 2020 has approved power procurement and cost of such procurement for FY2022-23 from various sources, including Renewable power. Details of the same are as below:

Particulars	MYT Petition			Approved in the Order		
	Quantum (MU)	Total Cost (Rs. Cr.)	Avg. Rate (Rs. / kWh)	Quantum (MU)	Total Cost (Rs. Cr.)	Avg. Rate (Rs. / kWh)
TPC-G	3,567.89	1,566.55	4.39	3,510.94	1,660.96	4.73
Walwahan solar Energy Maharashtra (Erstwhile Welsun)	31.50	26.96	8.56	31.50	26.96	8.56
Manikaran Power Limited (Medium term)	744.60	332.03	4.46	744.60	332.03	4.46
Solar Energy	312.61	102.85	3.29	307.74	89.25	2.90
Non-Solar Energy				500.37	143.61	2.87
Bilateral Power Purchase	498.35	199.34	4.00	0.00	0.00	4.00
REC Non-solar	507.38	171.68	3.38	-	-	-
Standby charges	-	102.64	-	-	98.53	-
Transmission Charges	-	280.85	-	-	256.72	-
MSLDC Charges	-	1.45	-	-	1.27	-
Total Power Purchase	5,154.96	2,784.35	5.40	5,095.15	2,609.33	5.12

3.2 After approval of the Commission vide Order dated 26 April, 2021 in Case No. 16 of 2021, BEST and Solar Energy Corporation of India (SECI) have entered into PSA for procurement of 400 MW Wind-Solar hybrid power by BEST from SECI at Tariff of Rs. 2.48/kWh discovered through competitive bidding for 25 years. Actual power flow from this project is anticipated to commence from February, 2023. Further additional 300 MW standalone solar PSA will be executed by BEST with SECI to meet the future obligation.

3.3 Since March, 2020, BEST's demand had drastically reduced arising out of COVID-19 pandemic. However, after lifting of restrictions on account of Covid-19, the economic activities are anticipated to increase the electricity demand. Considering this factor and the period of August, 2022 to December, 2022, BEST's demand is likely to increase.

3.4 BEST's peak demand in current financial year (FY 2022-23) was 890 MW in April, 2022. BEST's anticipated demand at day peak time will be approximately 861 MW during ensuing period. As per its Long/Medium term PPA, the ex-bus availability of its peak availability is 763 MW.

3.5 BEST has allocation of 90 MW from TPC's Unit-7 (180 MW) gas based generating unit. In recent years, due to change in priority for the power sector, the allocation of APM gas to TPC's Trombay Units from GAIL has considerably reduced. This has resulted into lower generation from TPC's Unit-7 as seen from Plant Load Factor (PLF) of the plant as tabulated below:

Month	Aug-21	Sept-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22
PLF	9%	64%	79%	71%	68%	19%	65%	44%	72%	47%

- 3.6 It is anticipated that the trend of lower generation from the Unit- 7 may prevail in ensuing period due to lower availability of APM gas and therefore, the anticipated shortfall from this source to BEST will be up to 40 MW.
- 3.7 TPC's Hydro resource is limited and is required to be used in the evening and night periods where the rates of the Power Exchange are on higher side. Thus, during day peak, availability of hydro is low.
- 3.8 Considering the volatility in the short-term power market, particularly during high demand season and as experienced during month of April and May, 2022, it is necessary to tie-up bilateral contracts to ensure reliability to meet the anticipated demand in ensuing period.
- 3.9 Therefore, BEST invited e-tender for bilateral power purchase for quantum of 50 MW to 150 MW at different time slots (00:00 to 24:00 hrs (RTC), 10:00 to 18:00 hrs and 10:00 to 19:00 hrs) for the period from August, 2022 to December, 2022 on DEEP portal on 27 June, 2022.
- 3.10 This e-tender is in line with Ministry of Power's Guidelines dated 30 March, 2016 for short-term procurement of power by Distribution Companies through tariff-based competitive bidding. The validity of bid offer is till 31 August 2022. Detail of this e-tendering process with price discovery after Reverse Auction is annexed with the Petition. The outcome of the bidding process is summarized below:

Sr No	Contract Period	Slot/Time (Hrs.)	Bid Quantum in MW	Successful Bidder	Source	Rate in Rs./ kWh	Allotted Quantum in MW
	From - To						
1	01-Aug-22 to 31-Aug-22	10:00 to 18:00	50	Tata Power Trading Co. Ltd (TPTCL)	Prayagraj Power Generation Co. Ltd. (PPGCL)	5.85	20
				Adani Enterprises Ltd	Raipur Energen Ltd. (REL)	5.86	30
2	01-Sep-22 to 30-Sept-22	10:00 to 18:00	50	TPTCL	PPGCL	7.50	20
				TPTCL	Jindal Power Ltd (JPL)	7.68	30
3	01-Oct-22 to 31-Oct-22	00:00 to 24:00 (RTC)	50	TPTCL	Jindal India Thermal Power Ltd. (JITPL)	8.66	25
				Manikaran Power Ltd. (MPL)	BLA Power Pvt Ltd.	8.66	25
4	01-Oct-22 to 31-Oct-22	10:00 to 19:00	100	TPTCL	PPGCL	7.50	20
				TPTCL	JPL	7.68	80
5	01-Nov-22 to 30-Nov-22	10:00 to 19:00	80	TPTCL	PPGCL	7.29	20
				MPL	BLA Power Pvt Ltd	7.30	25
				TPTCL	JPL	7.68	35
6	01-Dec-22 to 15-Dec-22	10:00 to 19:00	100	TPTCL	PPGCL	7.29	20
				MPL	BLA Power Pvt. Ltd.	7.30	25
				TPTCL	JPL	7.68	55

- 3.11 After considering the discovered price and allocated quantity to successful bidders, the

estimated average rate of power purchase cost for total 124.60 MU for the period from 1 August, 2022 to 15 December, 2022 will be Rs.7.72/kWh. The discovered price is in line with the results of bids floated on DEEP portal by other Utilities for aforesaid period.

- 3.12 BEST intends to procure total allocated bid quantum at discovered price through competitive bidding for the period from August, 2022 to December, 2022 to ensure reliability of power supply during ensuing period.
- 3.13 Accordingly, LoI/draft PPA is issued to the successful bidders within the timeframe as specified in MoP Guidelines on 19 July, 2022.
- 3.14 Any shortfall of the power in the availability thereon on real-time basis will be met through power purchase through power exchange platform.
- 3.15 The Commission, vide its Order in Case No. 46 of 2022 dated 6 April, 2022, has approved rate of Rs. 5.12/kWh for the power purchase from Bilateral source in FY 2022-23. The relevant para is reproduced as under:

“10.8 Further, above average tariff of Rs. 5.12/kWh discovered through competitive bidding shall act as ceiling tariff for procurement of short-term power through competitive bidding process for FY 2022-23. Any tariff discovered below such ceiling shall be considered as deemed adopted as per provisions of competitive bidding guidelines notified by the Central Government for short-term power procurement.”

- 3.16 Further, Ministry of Power’s Guidelines dated 30 March, 2016 for short-term procurement of power by Distribution Companies through tariff-based bidding process stipulate that if the quantum of power procured and tariff determined are within the blanket approval granted by the Commission in ARR of the respective year, then the same will be considered to have been adopted by the Commission. In all other cases, the Procurer(s) have to submit a Petition to the Commission for adoption of tariff.
- 3.17 Though the discovered rates of Short-term Bilateral Power Purchase for the period from August, 2022 to December, 2022 are higher than the Commission’s approved rate, these discovered rates are lower than the variable cost (about Rs.10.5/kWh) of TPC-G’s Unit-5/Unit-8.
- 3.18 The MoP has given directions vide Notification No.23/13/2021-R&R (Pt-1) dated 5 May, 2022 to coal based Generating companies that they should mandatorily use 10% of imported coal for blending purpose. This has resulted into increase of the fuel cost and subsequently higher quotes for this tender. The coal shortage issue is not likely to get resolved in near future. Thus, rates seem to be in anticipation to the future coal availability scenario.
- 3.19 In the past, power exchange rates surged to the capping rates. Even after quoting at ceiling rates the bids were not fully cleared. It resulted in curtailment of the drawal schedule. Hence it was decided to purchase the shortfall quantum through competitive bidding process of

DEEP portal. This power, though it is at a higher rates will avoid the precarious conditions arising out of uncertainty in the power exchange market.

- 3.20 Any shortfall over and above this will be met through RTM/DAM/TAM segment where BEST will ensure that short term power purchase is done in economical and judicious manner.
- 3.21 In view of above, it is requested to approve the tariff discovered through Competitive Bidding for Short -term bilateral Power purchase for the period August, 2022 to December, 2022.

4. At the time of E-hearing held on 29 July, 2022:

- 4.1 BEST reiterated the submission made in the Petition. BEST stated that it conducted the competitive bidding process for short term power procurement on DEEP portal for the period of August, 2022 to December, 2022 and requests the Commission to adopt the same.
- 4.2 In order to decide the Petition, the Commission directed BEST to clarify the following:
- a) Whether the demand projections are as per approved demand projections in MYT Order in Case No. 324 of 2019 or there is any deviation from approved projections?
 - b) Details of demand supply position for last 3 years for the months under consideration along with availability from contracted sources and short-term power procured during that period shall be submitted.
 - c) Basis on which it has projected outages of contracted generating units. Details of generator outages for the previous 3 years of the same month also needs to be provided along with reasons for such outages.
 - d) Considering transmission constraint to bring power into Mumbai from outside, BEST shall clarify whether it envisages any difficulties with proposed power procurement quantum?
- 4.3 Considering urgency of the matter as highlighted in the Petition, BEST was directed to submit above details on priority within 3 days.

5. BEST in its submission dated 2 August, 2022 has stated as under:

- 5.1. The clarification to the queries of the Commission raised during e-hearing on 29 July, 2022 are as under:
- 5.2. Query 1: BEST to clarify whether the demand projections are as per approved demand projections in MYT Order in Case No. 324 of 2019 or there is any deviation from approved projections?
- a) During MYT Petition, BEST had submitted 973.23 MW Peak Demand and 4726.99

MU Energy Sales projection for FY 2022-23. The Commission has approved the same and projected the 5095.15 MU Energy requirements at G<>T interface for FY 2022-23.

- b) Since March, 2020, BEST's demand drastically reduced because of COVID-19 pandemic. However, after lifting of restrictions placed in Mumbai under Government of Maharashtra's COVID-19 Guidelines, the economic activities are anticipated to increase the electricity demand. Considering this factor and the period of August, 2022 to December, 2022, BEST's demand is anticipated to rise.
- c) BEST's peak demand in FY 2022-23 is 890 MW in April, 2022. BEST's anticipated Demand at day peak time will be approximately 861 MW during ensuing period. For demand prediction for each month of the period from August, 2022 to December, 2022, the successive peak demands (excluding particular spikes in demand) of corresponding month in previous three years from year 2017 to year 2019 were considered.
- d) For the months of September, 2022 and December, 2022, average of respective months for past three years of 2017 to 2019 works out much higher than the actual monthly demands of the corresponding months of the Year 2021. Hence, the realistic demand of three years is considered for projection.
- e) Comparison of pre-pandemic demand Vs demand projection at T<>D in MW is as below:

Month/ Year	Pre-pandemic				Actual	Projected
	2017	2018	2019	Average	2021	2022
Jan	650.0	706.6	635.6	664.1	628.1	
Feb	731.1	752.5	663.9	715.8	637.6	
March	845.8	832.4	794.4	824.2	722.5	
April	858.4	896.8	862.3	872.5	692.2	
May	916.4	911.5	872.7	900.2	655.0	
June	916.9	938.8	927.4	927.7	684.7	
July	816.9	789.0	812.4	806.1	716.3	
Aug	808.6	785.2	798.6	797.5	695.6	797.0
Sept	878.5	808.6	786.0	824.4	691.7	784.0
Oct	868.8	892.6	851.5	871.0	778.5	861.0
Nov	757.7	808.5	791.3	785.9	760.9	785.0
Dec	713.0	719.9	760.1	731.0	652.3	713.0

- f) The provisional transmission loss of 3.18 % for year 2022 is considered. Accordingly, the estimated peak power demand projection is considered for August, 2022 to December, 2022 which is stated as follows:

Projected peak Demand in MW	Aug, 2022	Sep, 2022	Oct, 2022	Nov, 2022	Dec, 2022
T<>D level in MW	797	784	861	785	713
G<>T level in MW	823	810	889	811	736

- g) The expected MUs will be in line with approved energy requirement of 5095.15 Mus at G<>T interface for FY 22-23 in the MYT Order in Case No. 324 of 2019 as shown below:

MUs	Actual	Projected*

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
G<>T	456	478	438	401	394	422	508	435	400	346	363	452	5094

- h) As such there will not be any deviation from approved projections of the MYT Order. BEST's ex-bus generation capacity tied-up with TPC-G is 676.69 MW from Unit 5, 7, 8 and Hydro. Due to less availability of APM gas, U-7 generation is anticipated between 95 MW to 110 MW.
- i) TPC-G's peak availability (excluding hydro) during August, 2022 to 15 December, 2022 period will be around 379 MW. Also, in real time hydro generation varies from 0 to 447 MW on 15-min block to block basis. Therefore, peak share of allocation from TPC's Hydro generation is 226 MW. Hence, peak hours availability considered from TPC-G is around 613 MW.
- j) BEST's ex-bus generation availability of 100 MW from Manikaran (through M/s Saiwardha Power) is considered on RTC basis. Availability of up to 15 MW solar power from Walwhan energy during day hours has been considered in the availability as per typical solar pattern. Therefore, total availability of power works out to 728 MW.
- k) In order to meet the power shortfall requirement, based on past experience, it is proposed to procure Bilateral power in the time slots on RTC (00:00 to 24:00 hrs), Peak day period (10:00 to 18:00 hrs.) and (10:00 to 19:00 hrs) to optimize power purchase cost.
- l) The summary of the month-wise short term Bilateral power requirement is given below:

Time Slot	Aug,22	Sept,22	Oct,22	Nov,22	Dec,22
Estimated Peak demand (in MW)	823	810	889	811	736
Total availability (in MW)	728	728	728	728	636
Shortfall (in MW)	96	82	161	83	100
Proposed procurement					
00:00 to 24:00 Hrs, RTC (in MW)	-	-	50	-	-
10:00 to 18:00 Hrs (in MW)	50	50	-	-	-
10:00 to 19:00 Hrs (in MW)	-	-	100	80	100
Total energy requirement (in MU)	12.40	12.00	65.10	21.60	13.50
Total MU	124.60				

- m) In the event of increase in BEST's demand over the predicted demand or in case of lesser power availability from contracted sources or in order to optimize the overall power purchase cost, the additional power will be purchased through Power exchanges.
- 5.3. Query 2: Details of demand supply position for last 3 years for the months under consideration along with availability from contracted sources and short-term power procured during that period shall be submitted.
- a) Details of demand supply position for last 3 years for the months under consideration along with availability from contracted sources and short-term power procured during that period is as follows: