

Before the
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
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Case No. 195 of 2023

Case of the Tata Power Company Ltd – Distribution seeking adoption of tariff discovered for procurement of 225 MW grid connected Wind- Solar Hybrid capacity on long term basis plus additional 150 MW under Greenshoe Option through Competitive Bidding Process (Followed by E-Reverse Auction) to meet the future demand and Renewable Purchase Obligations.

The Tata Power Company Ltd – Distribution (TPC-D) ...	Petitioner
Juniper Green Energy Private Limited (JGEPL)	Respondent No.1
Tata Power Renewable Energy Limited (TPREL)	Respondent No.2

Coram

Sanjay Kumar, Chairperson
Anand M. Limaye, Member
Surendra J. Biyani, Member

Appearance

For the Petitioner	: Adv Shri Venkatesh
For Respondent No.1	: Shri Shailesh Shekhar
For Respondent No.2	: Shri Viddyesh Raje and Shri Gaurav Lodha

ORDER

Date: 28 February 2024

1. The Tata Power Company Ltd – Distribution (TPC-D) has filed the present Petition on 06 October 2023 under Section 63 of Electricity Act, 2003 (EA, 2003) seeking adoption of tariff discovered for procurement of 225 MW grid connected Wind- Solar Hybrid capacity on long

term basis (25 years) plus additional 150 MW under Greenshoe Option through Competitive Bidding Process (Followed by E-Reverse Auction) to meet the future demand and Renewable Purchase Obligations (RPO).

2. TPC-D's major prayers are as follows:

- a) *To admit the Petition as per the provisions under Section 63 of the Electricity Act, 2003;*
- b) *To accord approval for adoption of tariff discovered in the competitive bidding process for 75 MW from JGEPL at Rs 3.27/kWh*
- c) *To accord approval for adoption of tariff discovered in the competitive bidding process for 150 MW from TPREL at Rs 3.28 /kWh;*
- d) *To accord approval for purchase of power for a period of 25 years and subsequent signing of PPA, with successful bidders for total quantum of 225 MW;*
- e) *To accord approval for additional quantum of 150 MW under Greenshoe Option from TPREL and adoption of tariff at Rs 3.27 /kWh*
- f) *To accord approval to make this power eligible for meeting the RPO requirement of the Petitioner;*

3. TPC-D in its Case has stated as follows:

- 3.1. The Commission in its Order dated 28 November 2022 in Case No. 129 of 2022 had approved TPC-D's proposal for initialization of the competitive bidding process for procurement of 225 MW wind-solar hybrid power to meet its future demand and RPO.
- 3.2. Accordingly, on 26 June 2023 TPC-D floated a Bid document on web portal set-up by ISN-ETS 'Bharat-Electronic Tender and also published the bid on Tata power website for purchase of RE power.
- 3.3. TPC-D carried out 2 Stage bidding process, it clarified the queries raised by the potential bidders.
- 3.4. TPC-D opened the Technical Bid on 11 August 2023, TPC-D noted that three (3) bidders qualified techno commercially and were eligible for opening the financial bid. The details of three (3) qualified bidders are as under:

No.	Name of the Applicant	Capacity Offered (Green Shoe Cap Offered)	Location	Substation Details
1	Tata Power Renewable Energy Limited (TPREL)	225 MW (225 MW)	Solar – Chakarwadi, Maharashtra Wind – village-Vewali, Ghatnandre, Maharashtra	Solar- Manjarsumba, MSETCL S/s Wind: Naldurg, Buldhana- MSETCL S/s
2	Avaada Energy Private Limited	100 MW (100 MW)	District-Latur, Osmanabad- Maharashtra	220kV Narangwadi MSETCL S/s
3	Juniper Green Energy Private Limited	75 MW (0 MW)	Wind- Bhoom- Osmanabad, Solar- Chapalgaon-Solapur Maharashtra	Wind-132kV Bhoom, Solar-220kV Kumbhari MSETCL S/s

- 3.5. On 5 September 2023 TPC-D opened the Financial Bids of the above-mentioned bidders. On the same day i.e., 5 September 2023 TPC-D had done E reverse Auction. The rates discovered in the E-Reverse Auction are as under:

Details of E-Reverse Auction for 225 MW

Sr. No.	Bidder Name	Initial Bid		E-Reverse Auction		
		Capacity (MW)	Rate (INR/kWh)	Capacity (MW)	Rate (INR/kWh)	Rank
1.	JGEPL	75	3.79	75	3.27	L 1
2.	TPREL	225	3.59	150	3.28	L 2
3	AEPL	100	3.85	100	3.58	L 3

- 3.6. TPC-D compared the bids received with recently discovered Hybrid projects which were expected to be commissioned in 24 months post signing of the PPA. The rates comparison of Hybrid projects is as below:

Details	CESC Hybrid	TPDDL Hybrid	CESC Hybrid	TPDDL Hybrid	Tata Power-D Hybrid Bid
	In case Plant is outside Maharashtra State		In case Plant is within the State		

Details	CESC Hybrid	TPDDL Hybrid	CESC Hybrid	TPDDL Hybrid	Tata Power-D Hybrid Bid
Date of E-Reverse Auction	10-May-23	30-Nov-22	10-May-23	30-Nov-22	05-Sept-23
Bid Capacity	150	255	150	255	225
Capacity Awarded	150	255	150	255	225 (E- Reverse Auction result)
Winning Tariff	3.07	3.00	3.07	3.00	
Inter State Trans. Losses	0.11	0.11	NA	NA	
Inter State Trans. Charges	0.45	0.45	NA	NA	
Impact of higher Cost in Maharashtra	NA	NA	0.10	0.10	
Change in CUF due to variation in the Solar radiation 28% to 26%	NA	NA	0.07	0.18	
Reduction in Wind CUF by 2% (absolute)	NA	NA	0.13	0.13	
Tariff at State Periphery	INR 3.63/kWh	INR 3.56/kWh	INR 3.37/kWh	INR 3.30/kWh	INR 3.27/3.28/kWh

3.7. TPC-D also noted that tariff discovered in this bidding process was less than the approved long term Power Purchase cost of TPC-D. Also, the power from hybrid project will help TPC-D to reduce overall power purchase cost and meet its RPO.

3.8. Accordingly, TPC-D issued LOA to the final awardees with a condition that signing of PPA would be subject to approval of the Commission.

Details of final Bid Awarded

Sr.No	Bidder Name	Capacity (MW)	Rate (INR/kWh)
1	Juniper Green Energy Private Ltd	75	3.27
2	Tata Power Renewable Energy Ltd	150	3.28

4. Procurement of additional capacity under Greenshoe option from Wind-Solar Hybrid power through competitive bidding: -

4.1. The Commission published the Draft MERC (Renewable Purchase Obligation, its Compliance and Implementation of Renewable Energy Certificate Framework) (First Amendment) Regulations, 2023, which sets out RE targets from 29.91% to 43.33% from FY 2024-25 to FY 2029-30.

4.2. The Commission’s draft for RPO obligation is in line with the MoP notification for RPO. Hence, considering that if the same % RPO as mentioned in the draft as notified by the Commission, the RPO requirement of TPC-D will also be increasing significantly in the future. The estimated sales, existing RE tie-ups, RE requirement in future and proposed purchase is tabulated as follows:

Sr. No	Power Project/ Agency	Capacity of Power Station / Agency- MW (unit wise)	Name of Contracted Power station	Capacity Contracted Arranged -MW	Annual Mus
1	Tata Power Renewable Energy Limited	25 MW	Solar Plant at Palaswadi	25	42
2	Tata Power - Solar	3 MWp	Solar Plant at Mulshi	3	4
3	Tata Power - Solar	60.84 KWp	Rooftop Solar PV based Generation	0	0
4	Tata Power Renewable Energy Limited	150 MW	Chayyan, Rajasthan	150	342
5	Tata Power Green Energy Limited	225MW	Hybrid	225	690
6	Proposed Hybrid	225MW	Hybrid	225	591
7	Proposed Hybrid with Greenshoe option	150MW	Hybrid	150	394
8	Exisitng Hydro	447 MW	Hydro	218	707
Total Contracted Generation Capacity (MW)				859.56	2769

4.3. Considering the future requirement based on the power purchase plan and RPO requirement as per the draft RPO Regulations issued by the Commission the Renewable Power requirement works out as provided in the Table below.

Particulars			FY26	FY27	FY28	FY29	FY30
Direct Sale	MUs	a	4893	5235	5549	5882	6235
EHV Sales	MUs	b	789	797	805	813	821
Total Sale Excluding EHV Sales	MUs	c=a-b	4104	4438	4744	5069	5414
D>L	%	d	1%	1%	1%	1%	1%
T<>D Requirement	MUs	e=c/(1-d)	4146	4484	4794	5122	5470
Changeover Sale	MUs	f	1550	1550	1519	1489	1459
EHV Sales	MUs	g	789	797	805	813	821
Total T<>D Requirement	MUs	h=e+f+g	6486	6832	7118	7424	7751
T.L	%	i	3.18%	3.18%	3.18%	3.18%	3.18%
INSTS Requirement	MUs	j=h/(1-i)	6699	7056	7352	7668	8005
Total RPO Requirement	%	k=l+m	33.01%	35.95%	38.81%	41.36%	43.33%
RPO Requirement excluding Hydro	%	l	31.53%	34.15%	36.66%	38.85%	40.51%
RPO Requirement for Hydro	%	m	1.48%	1.80%	2.15%	2.51%	2.82%
Generation required from other than Hydro	MUs	n	2112	2410	2695	2979	3243
Generation from Present tie ups with existing Hydro	MUs	o	1783	1783	1783	1783	1783
Energy from 225 MW Hybrid Project	MUs	p		591	591	591	591
Proposed tie Up under Greenshoe Option 150 MW	MUs	q		394	394	394	394
Total Other Re		r=o+p+q	1783	2769	2769	2769	2769
Balance Requirement	MUs	s=n-r	329	-359	-74	210	474
cumulative Shortfall		t	329	-31	-104	106	580

- 4.4. Based on the revised RPO targets and TPC-D's demand supply scenario, TPC-D will require additional 150MW to meet its RPO targets for FY 2026-27 onwards.
- 4.5. Consequently, by a corrigendum TPC-D added Greenshoe Option in the bid document for procuring additional capacity to meet the revised RPO targets.
- 4.6. TPC-D requested JGEPL and TRPEL to provide additional capacity under Green Shoe option. JGEPL retained its stand of no capacity under greenshoe option, however TREPL offered an additional 150 MW capacity at Rs 3.27/kWh
- 4.7. TPC-D has also requested the Commission to allow additional procurement of 150 MW at Rs 3.27/kWh from TPREL and permission for signing of PPA for a period of 25 years at the lowest discovered rate of Rs 3.27/kWh under Greenshoe Option with successful bidder i.e. TPREL.

Details of quantum and cost under proposed Greenshoe option

Bidder Name	Capacity (MW)	Rate (INR/kWh)
Tata Power Renewable Energy Ltd	150	3.27

- 4.8. Along with Greenshoe Option TPC-D is seeking approval for adoption of Tariff and signing of long term PPA for 375 MW (i.e., 225+150) for meeting its RPO at the following rates.

Bidder Name	Capacity (MW)	Rate (INR/kWh)
Juniper Green Energy Private Ltd	75	3.27
Tata Power Renewable Energy Ltd	150	3.28
Tata Power Renewable Energy Ltd under Green shoe option	150	3.27
Total	375MW	

5. JGEPL vide its letter dated 30.10.2023 has provided No Objection for adoption of Tariff Petition filed by TPC-D for procurement 75 MW.
6. At the E-hearing held on 19 January 2023, Representative of TPC-D re-iterated the rationale for adoption of Tariff for procurement of RE Hybrid Power. In reply to Commission's query relating to location projects, TPC-D stated that JGEPL's 75MW Solar project is proposed to be commissioned in Village Bhoom Osmanbad, and Wind Project in Chapalgaon -Solapur Maharashtra and TREPL's (150MW) Solar is proposed to be commissioned in Chakarwadi, Maharashtra and Wind Project in Vewali Ghatnandre, Maharashtra. Respondents JGEPL and TREPL consented for adoption of Tariff.

Commission's Analysis and Rulings

7. Present Petition has been filed by TPC-D for adoption of Tariff of Rs. 3.27 P.U. and Rs 3.28 P.U. for procurement of 75 MW and 150 MW respectively and additional 150MW at Rs. 3.27 P.U. under greenshoe option for Wind-Solar Hybrid Power discovered through competitive bidding under Section 63 of the EA, 2003.
8. The Commission notes that TPC-D in Case No.129 of 2022 seeking approval for the Bidding Documents for long term procurement (25 years) of 225 MW capacity from grid connected Wind-Solar Hybrid Power Projects through competitive bidding process projected that it would require about 225 MW of Renewable Energy to meet its future demand and fulfill its RPO Targets from FY 2024-25 onwards.
9. Accordingly, the Commission in that Order dated 28 November 2022 considering the demand supply requirement had approved the bidding documents for procurement of 225 MW capacity from grid connected Wind-Solar Hybrid Power Projects through competitive bidding process.

10. In the tariff adoption process under Section 63 of the EA, 2003, the Commission has to ensure the following:
 - a. **Whether Competitive bidding process is accordance with the Guidelines notified under Section 63 of the EA, 2003**
 - b. **Whether tariff discover through competitive bidding is in accordance with market condition.**
11. In subsequent paragraphs, the Commission has scrutinized above two aspects with reference to the present Petition filed by MSEDCL for tariff adoption.
12. **Whether Competitive bidding process is accordance with the Guidelines notified under Section 63 of the EA, 2003**
 - 12.1. The Commission notes that TPC-D has prepared the tender documents based on MNRE's National Wind Solar hybrid policy dated 14 May 2018 and MNRE Guidelines dated 14 October 2020 for Tariff Based Competitive Bidding Process for procurement of power from Grid Connected Wind Solar Hybrid Projects.
 - 12.2. TPC-D floated the bid for procurement of 225 MW Wind-Solar Hybrid RE Power on Bharat Portal on 26 June 2023. In response, 3 bids of cumulative capacity of 325 MW were received.
 - 12.3. TPC-D constituted Bid Evaluation Committee to evaluate the bids received on the ISN-ETS Portal. TPC-D followed the 2 Stage bidding process, it clarified the queries raised by the potential bidders.
 - 12.4. All bids were found technically qualified and accordingly financial bid was opened and e-Reverse Auction (e-RA) process was conducted on 5 September 2023. Post e-RA process, tariff of Rs. 3..27 P.U., Rs 3.28 P.U and Rs 3.58 P.U. for 75 MW,150 MW and 100 MW respectively was discovered and two Bidders i.e. JGEPL (75MW) and TREPL (150 MW) have become successful bidders.
 - 12.5. The Commission notes that TPC-D has conducted transparent process of bidding which is in accordance with the guidelines notified by the Government of India. Hence, first mandatory condition for adoption of tariff has been met.

13. **Whether tariff discover through competitive bidding is in accordance with market condition.**

13.1. TPC-D and successful bidders have stated that tariff discovered under the present bidding process i.e. Rs. 3.27 P.U. and Rs 3.28 P.U. and additional 150MW at Rs 3.28 P.U. under green shoe option is reflective of market conditions and hence requested the Commission to adopt the same.

13.2. The Commission notes that NTPC has recently floated a bid for 1500 MW hybrid, in which price discovered was Rs 3.35/kWh to Rs 3.36/kWh. Details of the bids are reproduced below:

'Single Entity' with 'Variable Quantity Option' for bidders							
Entity		NTPC HYBRID 1500 MW (BOO-8)					
Description		Selection of Hybrid Power Generators for Setting up of 1500 MW ISTS-connected Wind-Solar Hybrid Power Projects anywhere in India (Tranche-I)					
Quantity		1104.00 MW					
Starting-Price		3.52 Indian Rupee					
Reserve-Price		3.52 Indian Rupee					
Acceptable percentage difference between Rank-1 Bidder's Bid Value and other Bidder(s) Bid Value for being eligible for Award		Not Applicable					
S#	Bidder's Name	Quoted Value	Loaded Value	Currency	Date/Time of Bidding	Bidder's Quantity	% Difference with Rank-1 Bid Value
1	SOLALITE POWER PRIVATE LIMITED	3.35	3.35	Indian Rupee	27-Dec-2023 16:27:30 RTZ	300.00	0%
2	Sprng Energy Private Limited	3.35	3.35	Indian Rupee	27-Dec-2023 16:27:54 RTZ	250.00	0%
3	ACME Cleantech Solutions Private Limited	3.36	3.36	Indian Rupee	27-Dec-2023 16:27:11 RTZ	300.00	0.30%
4	Juniper Green Energy Private Limited	3.36	3.36	Indian Rupee	27-Dec-2023 16:27:41 RTZ	230.00	0.30%
5	Avaada Energy Private Limited	3.37	3.37	Indian Rupee	27-Dec-2023 16:26:59 RTZ	300.00	0.59%

13.3. The Commission notes that price discovered by TPC-D for long term Hybrid project (Rs 3.27 P.U.) is lower than that recently discovered Tariff by NTPC for 1500 MW Hybrid project. The Commission also notes that the proposed tariffs is lower than the approved Long-term Power Purchase cost of TPC-D, indicating potential cost savings.

13.4. Hence, the Commission is of the opinion that tariff discovered by TPC-D for RE Hybrid project under present Petition is reflective of market conditions.

14. As both mandatory conditions are met, TPC-D's discovered tariff for RE Hybrid project is eligible for adoption under Section 63 of the Electricity Act, 2003.

15. As regard to the Procurement of additional capacity under Greenshoe option, the Commission notes the following:

15.1. On 26 June, 2023 TPC-D floated a tender for procurement Wind Solar Hybrid power of 225MW on long term basis (25 Years) on ISNTS portal. Subsequently, the Commission on 5 August 2023 published the Draft Maharashtra Electricity Regulatory Commission (Renewable Purchase Obligation, its Compliance and Implementation of Renewable Energy Certificate Framework) (First Amendment) Regulations, 2023 inviting suggestions and objections by 25 August, 2023.

15.2. The Commission in these draft Regulations has elaborated the reasons for incorporating the changes related to provisions of RPO in order to align the MERC (Renewable Purchase Obligation, its Compliance and Implementation of Renewable Energy Certificate Framework) Regulations, 2019 with the Ministry of Power (MoP) Order on RPO and Energy Storage Obligation Trajectory till 2029-30' issued on 22nd July 2022 and Corrigendum issued on 19th September 2022.

15.3. In draft Regulations, MERC has proposed revision in its RPO Targets, relevant extract of the draft Regulation is reproduced below:

*“Introduction of Regulation 7.5 (A) after Regulation 7.5 of the Principal Regulations:
“7.5(A) Every Obligated Entity shall procure electricity generated from eligible RE sources to the extent of the percentages, out of its total procurement of electricity from all sources in a year, set out in the following Table:—*

Year	Quantum of purchase (in %) from Renewable Energy sources (in terms of energy equivalent in kWh)			
	Wind RPO	HPO	Other RPO	Total RPO
	(a)	(b)	(c)	(d)
2024-25	2.46%	1.08%	26.37%	29.91%
2025-26	3.36%	1.48%	28.17%	33.01%
2026-27	4.29%	1.80%	29.86%	35.95%
2027-28	5.23%	2.15%	31.43%	38.81%
2028-29	6.16%	2.51%	32.69%	41.36%
2029-30	6.94%	2.82%	33.57%	43.33%

- 15.4. Considering the revised targets, TPC-D issued corrigendum to the ongoing bidding process and requested the bidders to offer additional power under greenshoe option.
- 15.5. The Commission notes that JGEPL was the lowest bidder (L1) with 75 MW of capacity offered but no capacity offered under Greenshoe option. TPREL was the second lowest bidder (L2) and 150 MW capacity was allocated to them under bucket filling. Further, TPREL is willing to offer additional capacity under Greenshoe option.
- 15.6. Tata Power-D sought Greenshoe option as per the bid conditions from JGEPL and TPREL through letters dated 11 September 2023. While JGEPL retained their stand of no capacity under greenshoe option through their response dated 11th September, 2023, TPREL was willing to offer additional 150 MW capacity as per the limit specified in the Bid conditions under Greenshoe option at L1 rate of Rs. 3.27 P.U. and confirmed the same through email dated 18 September 2023.
- 15.7. The Commission notes that TPC-D has conducted transparent bidding process and followed steps for procuring additional 150MW under greenshoe option on transparent basis. Further with increasing RPO target, additional power procurement is justifiable. Hence, the Commission approves procurement of additional 150MW at L1 rate of Rs 3.27 P.U. on long term basis (25 years) from TPREL.
16. The Commission notes that the proposed tariffs is lower than the approved Long-term Power Purchase cost of TPC-D, indicating potential cost savings. Additionally, the Hybrid project commissioned under the proposed bid will help meet the Wind and Solar Renewable Purchase Obligation (RPO) requirement of TPC-D. Therefore, the proposed tariffs from JGEPL and TPREL demonstrate competitiveness and potential cost-effectiveness for TPC-D. TPC-D shall sign PPA with JGEPL and TRPEL and submit copy of the PPA to the Commission for record purpose.
17. Hence the following Order:

ORDER

- 1. The Case No. 195 of 2023 is allowed.**
- 2. The Commission accords its approval for adoption of Tariff of Rs. 3.27 P.U. and Rs 3.28 P.U. for procurement of 75 MW and 150 MW respectively, from JGEPL and**


TREPL for Wind-Solar Hybrid Power discovered through competitive bidding under Section 63 of the EA, 2003.

- 3. The Commission also accords approval for adoption of Tariff of Rs 3.27 P.U. for procurement of additional 150 MW from TPREL under greenshoe option.**
- 4. The Commission directs TPC-D to sign the PPA with JGEPL and TRPEL and submit copy of the PPA to the Commission for record purpose.**

**Sd/-
(Surendra J. Biyani)
Member**

**Sd/-
(Anand M. Limaye)
Member**

**Sd/-
(Sanjay Kumar)
Chairperson**


**(Dr. Rajendra G. Ambekar)
Secretary**

