

Before the
MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
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Case No. 42 of 2023

Petition seeking approval for adoption of tariff discovered for long term procurement of 117.5 MW solar power under ‘Pradhan Mantri Kisan Urja Suraksha Evem Uthhan Mahabhiyan’ (PM-KUSUM) under component ‘C’ from Solar projects.

M/s Maharashtra State Electricity Distribution Company Ltd. (MSEDCL)... Petitioner

- 1) M/s. AGE RCC Energy Pvt. Ltd.
- 2) Mr. Akshay Surendra Kotalwar
- 3) M/s. Arnav Electricals Pvt. Ltd
- 4) M/s. Ashish Dall Industries
- 5) M/s. Ganesh Enterprises
- 6) M/s. Kalika Ginning and Pressing Pvt. Ltd.
- 7) M/s. Mars Endeavour Pvt. Ltd
- 8) Mr. Narendra Ramrao Kale
- 9) Mr. Prakash Gurappa Tonne ... Respondents
- 10) M/s. Rajkamal Construction Company
- 11) Mr. Ranjit Vijay Mankari
- 12) M/s. Sharvari Electricals
- 13) M/s. Shivprasad Motors
- 14) Mr. Sumit Hiralal Loya
- 15) M/s. Sunridge Green Energy Ventires Pvt. Ltd
- 16) M/s. Sunstream Green Energy Ventires Pvt. Ltd
- 17) Ms. Surekha Sharad Patil
- 18) M/s. VRN Constructions
- 19) M/s. Shree Kashi Vishwanath Infra Projects Pvt. Ltd
- 20) M/s. Shri Satyasai Baba Infra Ventures Pvt Ltd

Coram

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

Appearance:

For the Petitioner : Smt. Kavita Gharat, CE (RE)
For the Respondent : Shri. Jayesh Bajaj
Shri. Khalil Choudhary
Shri. Parth Paul

ORDER

Date: 24 May 2023

1. Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) has filed the present Petition on 28 March 2023 seeking approval for adoption of tariff for long term power procurement from 117.5 MW solar projects selected through competitive bidding process under Section 63 of the Electricity Act 2003 under Component C of 'Pradhan Mantri Kisan Urja Suraksha Evem Uthhan Mahabhiyan' (PM-KUSUM).
2. **MSEDCL's main prayers are as follows:**
“
 - a) *To admit the Petition as per the provisions under Section 63 of the Electricity Act (EA), 2003.*
 - b) *To accord approval for adoption of tariff as mentioned in table under para 4.9 and signing of PPA with successful bidder for 117.5MW solar power capacity.*
 - c) *To allow MSEDCL to consider this power for meeting its Solar RPO requirement.*
 - d) *To consider the submission made by the Petitioner and consider the same positively while deciding the Petition as well as for further actions;*...”
3. **MSEDCL in its Case has stated as follows:**
 - 3.1 The Government of India on 08 February 2019 launched PM KUSUM Scheme & issued guidelines on 04 December 2020 for implementation of Feeder Level Solarisation under Component-C of PM-KUSUM Scheme.
 - 3.2 MNRE on 21 June 2021 had sanctioned 2.5 lakhs quantity of Agricultural pump solarisation (approx. 1200 MW) for MSEDCL under PM KUSUM Component-C.
 - 3.3 MNRE is providing Central Financial Assistance (CFA) of Rs 1.05 Crores per MW to developers under feeder level solarisation of PM-KUSUM Component-C scheme. Metering and Remote Monitoring System (RMS) of AG consumers have to be done under PM-KUSUM-C.

- 3.4 As per MNRE feeder Level Solarisation guidelines, MSEDCL floated tender for long term procurement of 500 MW solar power with ceiling rate of Rs. 2.30 per unit through competitive bidding (E-reverse auction) under PM KUSUM Component-C through www.mahadiscom.in web portal.
- 3.5 MSEDCL extended time for submitting tender for 5 times but no response was received. Due to no response and to derive market rate, MSEDCL floated another 500 MW solar tender on 22 June 2022 for long term procurement of solar powers without ceiling rate through competitive bidding (E-reverse auction) under PM KUSUM Component-C. The work of Metering & Remote Monitoring System (RMS) of AG consumer has been kept in the scope of developers. The last date of submission of Bid was 29 August 2022.
- 3.6 MSEDCL received responses from (27) bidders with a total cumulative capacity of 137.25 MW. Technical bids were opened on 01 September 2022 and during technical scrutiny of bid documents, M/s. Shri.Nagesh Gurappa Tonne was disqualified due to less net worth. Another bidder Shri. Sumit Hiralal Loya got qualified for lesser quantum of 4.5 MW instead of 4.75 MW due to lesser net worth.
- 3.7 Financial bids were opened on 26 September 2022. Quoted rates by the bidders were on higher side (Rs. 3.40-4.49 per unit). Hence, bidders were called on 07 October 2022 for discussion. It was observed that the higher rates quoted by bidders are after considering the combined costing of Solar project and RMS & Metering system.
- 3.8 MNRE vide its OM dated 14 December 2021 simplified the guidelines stating that it will be the farmers' choice to opt or not for the facility regarding metering & RMS of agricultural meters.
- 3.9 As the rates quoted by bidders for metering & RMS of Ag consumers were on higher side, in order to encourage bidders to offer lower tariff, the rates of only solar plants were called from bidders and MSEDCL decided to carryout the works of metering & RMS of Ag consumers by floating separate tenders.
- 3.10 MSEDCL called successful bidders on 04 October 2022 for discussion on rates and requested to offer rate prevailing in the current market conditions. The bidders offered their revised rates up to 22 October 2022. The offered revised rates was in the range of Rs. 3.15 to Rs 3.92 per unit.
- 3.11 The revised rates offered still appeared on higher side, therefore another round of deliberation is carried out with successful bidders on 15 December 2022. The revised rates received from successful bidders up to 04 January 2023 are follows:

Sr No.	Name of Bidder	Capacity (MW)	Solar Plant cost (Unit rate)	Metering cost (Unit cost)	Total Unit rate (Rs)	1 st Offered Rate without RMS & Metering (Rs/kWh)	2 nd Offered Rate without RMS & Metering (Rs/kWh)
1	AGE RCC Energy Pvt Ltd	2.5	3.32	0.64	3.96	3.15	3.10
2	Akshay Surendra Kotalwar	2.5	3.6	0.81	4.41	3.15	3.10
3	Arnav Electricals Pvt Ltd	2	3.25	0.15	3.4	3.15	3.10
4	Ashish Dall Industries	2.5	3.56	0.67	4.23	3.15	3.10
5	Ganesh Enterprises	2.5	3.7	0.53	4.23	3.15	3.10
6	Kalika Ginning Pvt Ltd	3	3.33	1.16	4.49	3.15	3.10
7	Mars Endeavour Pvt Ltd	2.5	3.4	0.82	4.23	3.15	3.10
8	Narendra Ramrao Kale	3	3.89	0.52	4.41	3.15	3.10
9	Prakash Gurappa Tonne	5	3.8	0.43	4.23	3.15	3.10
10	Rajkamal Construction Company	3	3.95	0.46	4.41	3.15	3.10
11	Ranjit Vijay Mankari	2	3.67	0.29	3.96	3.15	3.10
12	Sharvari Electricals	7	3.20	0.50	3.72	3.15	3.10
13	Shivprasad Motors	2.5	3.48	0.75	4.23	3.15	3.10
14	Sumit Hiralal Loya	4.5	3.4	0.83	4.23	3.15	3.10
15	Sunridge Green Energy Ventires Pvt Ltd	5	3.4	0.52	3.92	3.15	3.10
16	Sunstream Green Energy Ventires Pvt Ltd	50	3.28	0.61	3.89	3.15	3.10
17	Surekha Sharad Patil	2.5	3.53	0.88	4.41	3.15	3.10
18	VRN Constructions	2.5	3.61	0.53	4.14	3.15	3.10
19	Shree Kashi Vishwanath Infra Projects Pvt Ltd	10	3.58	0.65	4.23	3.15	3.10
20	Shri Satyasai Baba Infra Ventures Pvt Ltd	3	3.4	1.01	4.41	3.15	3.10
21	Ashish Ramesh Amberkhane	3	3.92	0.31	4.23	3.92	No Change in Tariff
22	Kiran Laxminarayan Mantri	2.5	3.89	0.34	4.23	3.16	No Change in Tariff
23	Nathumal Vasudeo	2.5	3.37	0.86	4.23	3.37	No Change in Tariff
24	Vaibhav Industries	2	3.33	0.99	4.32	3.33	No Change in Tariff
25	Vijaykumar Mallikarjun Mankari	2	3.4	0.83	4.23	3.40	No Change in Tariff
26	YMS Consultants Limited	2.5	3.54	0.69	4.23	3.54	No Change in Tariff

3.12 Tariff calculations as per current market conditions for Decentralised solar projects:

Particular	Rates (Rs/kWh)	Remarks
Tariff at STU Periphery from Solar Project	2.90	Tariff discovered in recent 500 MW Inter/Intra Solar Tender
InSTS Loss (3.18%)	0.09	As per MERC Order 327 of 2019
33 kV Wheeling Loss (7.5%)	0.22	As per MERC Order 322 of 2019
Resultant Tariff	3.21	

3.13 Developer receives CFA of Rs 1.05 Crores/MW i.e. Rs 0.52 per unit. Hence, after deducting the impact of CFA from resultant tariff, the rate calculated is Rs 2.94 per unit.

Particular	Rates Rs/kWh	Remarks
Resultant tariff considering impact of InSTS& 33 kV network loss	3.21	
Economies of scale for small scale decentralized projects	0.25	Additional impact is around 50 lakhs for Decentralised projects.
Total	3.46	
Deducting Impact of CFA Rs. 1.05 Crores/MW	0.52	Increase in tariff of Rs 0.01 p.u. for every net increase of Rs 2 lakh per MW in project cost
Net Total	2.94	
Sharing 30% of CFA benefits with bidder	0.156	30% of Rs 0.52 p.u.
Resultant tariff approx..	3.10	

3.14 MSEDCL has decided to share 30% of CFA i.e. 30% of Rs 0.52 per unit. benefit with the successful bidders in order to encourage for participation in PM-KUSUM Component-C scheme.

3.15 GUVNL had received bids around 200 MW in the range of Rs 3.50-4.50 per unit under PM-KUSUM component- C and after reverse bidding/negotiation the rate derived is in the range of Rs. 3.00 to 3.25 per unit. Tariff calculations as per minimum rate derived in GUVNL under PM- KUSUM C tender for solar projects is as mentioned below:

Particulars	Values	UoM	GUVNL (3.0)
Change in CUF due to variation in the solar radiation	28% to 26 %	Paisa	18
Impact of higher land cost in Maharashtra	05 Lakh/Acre	Paisa	10

Particulars	Values	UoM	GUVNL (3.0)
Impact of higher interest rate	8.20% to 9.45%	Paisa	8
Total Impact	-	Paisa	36
Tariff for MSEDCL after considering all possible impacts	-	Rs./kWh	3.36

3.16 The tariff rate of Rs 3.10 per unit is much lower than MSEDCL APPC rate of Rs. 4.05 per unit.

3.17 MSEDCL in this Petition prayed to the Commission for adoption of Tariff for 117.5 MW solar power discovered through competitive bidding process under Section 63 of the Electricity Act, 2003, for following bidders:

Sr.No.	Name of Bidder	Capacity per location MW	Offered Rate (Rs/kWh)
1	AGE RCC Energy Pvt Ltd	2.5	3.10
2	Akshay Surendra Kotalwar	2.5	3.10
3	Arnav Electricals Pvt Ltd	2	3.10
4	Ashish Dall Industries	2.5	3.10
5	Ganesh Enterprises	2.5	3.10
6	Kalika Ginning and Pressing Private Limited	3	3.10
7	Mars Endeavour Pvt Ltd	2.5	3.10
8	Narendra Ramrao Kale	3	3.10
9	Prakash Gurappa Tonne	5	3.10
10	Rajkamal Construction Company	3	3.10
11	Ranjit Vijay Mankari	2	3.10
12	Sharvari Electricals	7	3.10
13	Shivprasad Motors	2.5	3.10
14	Sumit Hiralal Loya	4.5	3.10
15	Sunridge Green Energy Ventires Pvt Ltd	5	3.10
16	Sunstream Green Energy Ventires Pvt Ltd	50	3.10
17	Surekha Sharad Patil	2.5	3.10
18	VRN Constructions	2.5	3.10
19	Shree Kashi Vishwanath Infra Projects Pvt Ltd	10	3.10
20	Shri Satyasai Baba Infra Ventures Pvt Ltd	3	3.10
		117.5 MW	

4. At the e-hearing through video conferencing held on 11 April 2023, Representative of MSEDCL reiterated submissions made in the Petition.

Commission's Analysis and Rulings

5. MSEDCL has filed this Petition for adoption of tariff discovered for 117.5 MW Solar project under PM-KUSUM Component-C scheme selected through competitive bidding process under Section 63 of the Electricity Act, 2003.
6. The Commission notes that the proposed procurement is under Component C of PM-KUSUM Yojana. Component C of KUSUM is typically for Solarization of grid connected Agricultural pumps. Under this component, individual farmers having grid connected agricultural pump will be supported to solarize their pumps. On 04 December 2020, MNRE introduced and issued guidelines for implementation of feeder level solarization under Component-C of PM-KUSUM Scheme. Under the scheme, agriculture feeders already segregated or, feeders having major load for agriculture may be solarized using installation of grid connected solar power plant to cater to the annual power requirement of feeder(s). This will lead to lower cost both in terms of lower capital cost and cost of power. KUSUM Component-C has a component of RMS and Metering in the scope of the Project Developer.
7. As per KUSUM Guidelines dated 22 July 2019 it is mandatory for implementation agency (MSEDCL in present Case) to create remote monitoring system to monitor performance of the system. Further, Office Memorandum dated 4 December 2020 provides for following:

*“The objective of Component-C of PM-KUSUM Scheme is to provide reliable day-time power to farmers, enhancing their income by purchasing surplus solar power and thus incentivising them for saving water. In case of feeder level solarisation, farmers will get daytime reliable solar power for irrigation, but there is no provision of selling surplus solar power. Therefore, farmers can be incentivised for saving water and enhancing their income. **The DISCOMs shall assess the average power requirement by farmers of an area depending upon various factors. This power requirement will be treated as their benchmark consumption. The DISCOMs shall incentivise farmers for consuming power less than benchmark consumption. Such saving of power shall be treated as surplus power injected by farmers and they will be paid by DISCOMs against this saved power at pre-determined tariff. This will be an important measure for conserving groundwater level.**”*

Thus, under PM KUSUM-C, for conserving the groundwater level, farmers are incentivised for consuming less electricity than benchmark consumption. For such saved electricity, farmers are to be paid as pre-determined tariff. In order to implement the above modalities, it is necessary to have robust consumer metering.

8. Subsequently MNRE vide OM dated 14 December 2021 carried out following simplifications:

“

3. For feeder level solarisation the Scheme guidelines have a provision for incentivising farmers who consume less electricity than the benchmark consumption, by paying them per unit for the consumption less than the benchmark. This provision encourages conservation of groundwater as well as electricity. Some of the States have indicated that for feeder being solarized not all farmers may be willing to install meters necessary for availing those incentives. **Government have reviewed this provision and have decided that availing the said incentives under the scheme will be optional for the farmers. The DISCOM will inform the farmers about benchmark consumption and amount of incentive per unit which they can avail of in case of lower consumption.** However, it will be the farmers choice to opt or not for this facility. MNRE will prepare and circulate the formats for informing the farmers and obtaining their option to avail this facility.”

Through above letter, participation of farmer in incentive scheme for saving in electricity has been made optional.

9. MSEDCL floated a tender for procurement of 500 MW Solar power under PM-KUSUM Component-C solar projects with ceiling tariff of Rs.2.30 per unit. MSEDCL extended time for submission of tender for 5 times but no response was received. After a futile attempt, MSEDCL floated another tender of 500 MW under under PM-KUSUM Component-C without any ceiling rate.
10. With regards to ceiling tariff and increasing participation in tenders under ‘Mukhyamantri Saur Krishi Vaahini Yojana’(which is also decentralized Solar project), the Commission in its Order dated 19 December 2019 in Case No. 323 of 2019 has noted following:

“

10. Having ruled as above, the Commission notes that even after repeated extension of bid deadline, there has been very poor response to the bidding process. As against 1350 MW, bid has been received only for 5 MW and that too by a single bidder that participated in the tender. Therefore, in the opinion of the Commission, there is a need for MSEDCL to review their bidding conditions on holistic basis, considering the overall market scenario in the country so as to attract more bidders. **Ceiling rate may be one of bottlenecks causing poor response.**”

In view of above, for testing of market it is appropriate on part of MSEDCL to float tender without any ceiling. The work of Metering & RMS of AG consumer is kept in the scope of developers.

11. Considering discovery of rate in the range of Rs. 3.40-4.49 per unit, MSEDCL engaged itself in to negotiation and decided to carry out activity of Metering & RMS by its own

through a separate tender. After two rounds of deliberation following rates have been offered by successful bidders and proposed for adoption:

Sr No.	Name of Bidder	Capacity (MW)	Tariff proposed for adoption (Rs/kWh)
1	AGE RCC Energy Pvt Ltd	2.5	3.10
2	Akshay Surendra Kotalwar	2.5	3.10
3	Arnav Electricals Pvt Ltd	2	3.10
4	Ashish Dall Industries	2.5	3.10
5	Ganesh Enterprises	2.5	3.10
6	Kalika Ginning Pvt Ltd	3	3.10
7	Mars Endeavour Pvt Ltd	2.5	3.10
8	Narendra Ramrao Kale	3	3.10
9	Prakash Gurappa Tonne	5	3.10
10	Rajkamal Construction Company	3	3.10
11	Ranjit Vijay Mankari	2	3.10
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19	Shree Kashi Vishwanath Infra Projects Pvt Ltd	10	3.10
20	Shri Satyasai Baba Infra Ventures Pvt Ltd	3	3.10
Total		117.5	

12. The Commission notes that Tariff finalised in the present bidding process is Rs. 3.10 per unit. The Commission also notes that projects being set-up under PM KUSUM – C scheme are identical to solar projects being setup under Mukhyamantri Saur Krishi Vahini Yojana (MSKVY) for which in recent Order dated 11 May 2023, the Commission has adopted the tariff of Rs. 3.30 per unit. There is no subsidy component in MSKVY. In PM KUSUM-C, project developer would be eligible for CFA of Rs. 1.05 Crore/MW from Central Government which as per MSEDCL's submission translates to Rs. 0.52 per unit. Thus, the tariff for the Project Developer works out to Rs 3.62 per unit. As against this Tariff of Rs 3.62 per unit including the CFA component, it can be assumed that the successful bidders have passed on Rs.0.20 per unit (3.30 – 3.10) to MSEDCL. Thus, the effective Tariff to the developer works out to Rs 3.42 per unit out of which the cost to MSEDCL is Rs 3.10 per unit.

13. The Commission further notes that MSEDCL has taken onto itself the scope of RMS and Metering which was earlier with the Developer. MSEDCL has neither mentioned the financial impact of the same nor has it given any firmed-up plan for the same. Metering of

Agriculture consumers is a critical factor in KUSUM-Component C and the Commission expects that MSEDCL complies with the same. On the additional financial impact, the Commission is assuming that the same will be covered through the Tariff difference of Rs 0.20 per unit.

14. Thus, considering the importance of this solarisation scheme, very poor response that MSEDCL is receiving and the tariff (to be paid by MSEDCL) of Rs. 3.10 per unit being lower than recently adopted tariff of Rs. 3.30 per unit for similar size solar plant, the Commission is of the opinion that same is reflective of current market trends. Therefore, the Commission is not going any further analysis of the derived tariff computed by MSEDCL (as summarised in para 3.12 to 3.15) for justifying above rate.
15. Accordingly, in line with the mandate under Section 63 of the Electricity Act 2003, the Commission deems it fit to adopt and approve tariff as highlighted in above para (11) for 117.5 MW cumulative Solar projects on long term basis (for the period of 25 years) under PM-KUSUM Component-C scheme.
16. Having adopted the tariff as above, the Commission would like to note that MSEDCL has changed the scope of bid (excluding scope of metering and RMS) post submission of bid and negotiated with all the qualified bidders based on such revised scope. In normal circumstances, such changes in scope post bidding process would not have been allowed. But in the present case, MSEDCL has already extended the bid for multiple times and has given fair chance to all the qualified bidder to submit revised quote. Hence, as an exception, the Commission has considered the above tariff for adoption. The Commission categorically rules that the derived Tariff (Rs 3.62 per unit or Rs 3.42 per unit) shall not to quoted/referred as precedence for justifying the adoption of tariffs in future. This case shall not be considered as precedent in future. Also, as tariff being discovered under this scheme is lower than MSKVY scheme, MSEDCL may prioritize tendering process under PM KUSUM-C since the same will optimise the cost of power purchase to that extent.
17. MSEDCL in the Petition resolved that it will be carrying out works of metering and RMS through a separate tender. The Commission opines that it is necessary to kickstart the works in parallel manner, so that by the time plants are ready, other allied monitoring system will also be in last leg of the implementation. As far as metering is considered, the Commission directs MSEDCL go in the cost benefit analysis of OPEX model and advises to opt for OPEX model.
18. Hence, the following Order.

ORDER

- 1. Case No. 42 of 2023 is allowed.**

2. **The Commission accords its approval for procurement of 117.5 MW on long term basis from solar generators as stated in Para 11 above. Parties shall sign the PPA within 30 days of this Order and shall submit the copies of the same to the Commission.**
3. **The Solar Power procured from these projects shall be eligible towards fulfilment of Maharashtra State Electricity Distribution Co. Ltd.'s Solar RPO for the respective periods.**

Sd/-
(Mukesh Khullar)
Member

Sd/-
(I.M. Bohari)
Member

Sd/-
(Sanjay Kumar)
Chairperson


(Dr. Rajendra Ambekar)
I/c Secretary

