

TAMIL NADU ELECTRICITY REGULATORY COMMISSION
(Constituted under section 82 (1) of the Electricity Act, 2003)
(Central Act 36 of 2003)

PRESENT:-

Thiru M.Chandrasekar

.... Chairman

and

Thiru K.Venkatasamy

.... Member (Legal)

P.P.A.P. No. 2 of 2022

Tamil Nadu Generation and Distribution Corporation Ltd.
(Represented by the CE/NCES/TANGEDCO)
144, Anna Salai,
Chennai – 600 002

.... Petitioner
(Thiru M.Gopinathan
Standing Counsel for TANGEDCO)

Date of hearing : 19-04-2022

Date of order : 26-04-2022

ORDER

The P.P.A.P.No.2 of 2022 came up for hearing on 19-04-2022. The Commission, upon perusal of the petition and after hearing the submissions of the petitioner hereby makes the following order:-

ORDER

1. Prayer of the Petitioner in P.P.A.P.No.2 of 2022:-

The prayer of the Petitioner in P.P.A.P. No. 2 of 2022 is to-

- (a) To approve for adopting the tariff of Rs.2.99 per unit offered by the following 2 bidders who are farmers, arrived through reverse bidding process (e-tender) in respect of their proposed solar power plants of combined capacity of 3 MW against solar tender specification CE/NCES/OT.No.1/2020-21 under Component "A" of PM-KUSUM scheme.

Sl. No.	Name of the Bidder	Capacity in MW	Rate per unit in Rs.	Connectivity SS
1	Mr.T.Palani, Ladavaram, Arcot	2	Rs.2.99	33/11 Pudupadi SS of Vellore EDC
2	Mr.K.Sathyabal, Pallapatty, Dindigul East Taluk	1	Rs.2.99	110/11 kV V.Kurumpatti SS of Dindigul EDC

- (b) issue Letter of Award to the above two bidders in anticipation of approval with the technical and commercial clauses as approved by the Commission in the order dated 28.12.2021 for M.P.No.19 of 2021.
- (c) deduct line loss as discussed in para 17 and pay for the net generation after accounting the transmission loss.
- (d) approve the draft PPA enclosed as Annexure with the corrections incorporated as per the directions of the Commission.

2. Facts of the case:-

This petition has been filed for seeking approval to adopt the tariff of Rs.2.99 per unit offered by 2 bidders in respect of the proposed solar power plants of combined capacity of 3 MW, arrived through tender floated against CE/NCES/OT No.1/20-21 floated for procurement of 500 MW of solar power under Component – A of Pradhan Mantri Kisan Urja Surasksha Evam Utthaan Mahabhiyaan (PM-KUSUM) Scheme.

3. Contentions of the petitioner:-

3.1. This petition is being filed seeking approval for adoption of tariff of Rs.2.99 per unit offered by the 2 (two) successful bidders of the solar e-tender obtained through reverse bidding process in respect solar tender specification CE/NCES/OT.No.1/2020-21 floated for procurement of 500 MW of solar power from individual farmers / group of farmers / cooperatives / Panchayats / Farmer producer organizations (FPO) / Water user associations (WUA) / Developers on behalf of the farmers by establishing solar power plants in Tamil Nadu of capacity 1 MW and upto 2 MW under Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyaan (PM-KUSUM) Scheme Component - A for an agreement period of 25 years.

3.2. A petition in M.P.No.9 of 2021 was filed before the Commission with the following prayer: -

(i) To approve the proposal to purchase solar power from solar power plants of 1 MW to 2 MW upto a capacity of 500 MW from individual famers/ cooperatives/

Panchayats/ Farmer Producer Organisations (FPO) /Water User Associations (WUA) /developers for establishing solar power plants under PM KUSUM scheme Component -A considering upper ceiling limit of Rs3.00 per unit with the tender specification as discussed in para 9 and 10 of the petition.

- (ii) To approve the draft tender specification and draft Power Purchase Agreement
- (iii) To approve the deviations as discussed in para 12 of the petition and fix line loss to be deducted.
- (iv) To approve and ratify the action of having floated the tender by TANGEDCO in Tamil and English dailies on 21.1.2021 with tender specification No.CE/NCES/OT No.01/2020-21 in view of urgency and

3.3. The Commission has issued final orders for the above M.P.No.9 of 2021 on 28.12.2021 wherein the Commission has approved and ratified the action of having floated the tender on 21.1.2021 and the ceiling tariff of Rs.3.00 adopted in the tender has also been approved.

3.4. The tender was floated for the procurement of 500 MW of solar power under Component -A of PM-KUSUM scheme for establishing solar power plants in Tamil Nadu under reverse bidding.

3.5. The Techno-commercial bid was opened on 19.02.2021. Three offers were received against the above tender from the following:

1. M/s Ellapuram Block Paddy Producer Company Limited.
2. Mr. T. Palani, No.3/61, Mettu Street,Ladavaram, Arcot - 632503
3. Mr. K.Sathyabal, Pallapatty, Ramarajapuram,Thimmanaliur Post, Dindigul East Taluk.

The land documents furnished by the bidders were sent to field NCES wing and distribution wing to furnish the field feasibility report.

Based on the evaluation, TANGEDCO in its 353rd BLTC meeting held on 18.06.2021 has approved the following:

- (i) to open the bids of Mr. K.Sathyabal, Pallapatty, Dindigul East Taluk (1 MW) and Mr.T.Palani, Ladavaram, Arcot. (2 MW)
- ii) to reject the bid of Mis Ellapuram Block Paddy Producer Company Limited, as they have not furnished the land documents.

3.6. Further the price bids of the following 2 bidders were opened on 23.07.2021, as they have satisfied all the terms and conditions of tender specification. Both the bidders have quoted Rs.2.99 per unit for supply of solar power to TANGEDCO.

Sl. No.	Name of the Bidder	Capacity in MW	Rate per unit in Rs.
1	Mr.T. Palani, Ladavarnam, Arcot	2	Rs.2.99
2	Mr.K.Sathyabal, Pallapatty, Dindigul East Taluk	1	Rs.2.99

3.7. Both the bidders were called for negotiation on 11.8.2021 for reducing the rate quoted by them. Thiru T.Palani in his letter dated 11.8.2021 have not agreed for any reduction in the rate stating they have quoted a low marginal rate of Rs.2.99 per unit and there is no scope to reduce the rate. Thiru K.Sathyabal in his letter dated 9.8.2021 have stated that due to increase in module prices globally they are not in a position to reduce the quoted rate of Rs.2.99 per unit.

3.8. While seeking approval of proposal of issue of LOA and subsequent signing of PPA with the above two eligible bidders, the BLTC of TANGEDCO directed "to re negotiate the price so as to match the discovered price of Rs.2.61/unit. The BLTC further directed to compare the price with SECI price on equivalent terms basis duly including the transmission charges etc to ensure price reasonableness".

3.9. Based on the directions of the BLTC of TANGEDCO, both the bidders were called for Renegotiation meeting on 15.12.2021 and the bidders were requested to reduce the price of Rs.2.99/unit quoted by them. While Thiru T.Palani, Ladavaram, Arcot attended the meeting and informed that it is not possible to reduce the rates further Thiru K.sathyabal, Pallapatty, in his letter dated 14.12.21 informed that they are also not able to reduce rates further. Further Thiru T.Palani in his letter dated 25.12.2021 has stated that this is a special scheme offered by the GOI for poor land owners and they would not be in a position to avail accelerated depreciation of 40% for the capital investment in the first year. Further both the successful bidders have stated that the GOI has increased duty charges for solar panels and solar equipments from 5% to 12% which contributed to 70% of total investment.

3.10. With regard to the reasonableness of the rate the following are submitted:

(i). TANGEDCO has signed PPA on 16.9.2021 for purchase of 1000 MW of solar power @ the rate of Rs. 2.54 per unit and trade margin of Rs. 0.07 per unit. The landed cost for this power at the point of supply i.e. to farmer is as follows:

- Cost of solar power for utility scale projects :Rs.2.54
- Transmission losses @ 4% : Rs.0.10

- Cost at state periphery : Rs.2.64
- * Distribution losses @13.5% : Rs.0.41
- * Cost of solar power supply at agriculture field after distribution losses : Rs.3.05 per unit
- Rate with trade margin : Rs.3.12 per unit

(ii) As per a report published by Prayas (Energy group) dt April 2021, the Govt. of Maharashtra has implemented around 1826 MW of PM KUSUM-Component A scheme and the tariff ranges between Rs.2.93/kwh to Rs.3.30/kwh, with the weighted average being Rs.3.11 / kwh.

Further as per the report published in <https://mercomindia.com/bids-invited-solar-kusum-maharashtra/>, Maharashtra has invited bids for 445 MW of Solar projects under KUSUM (Component A) program with a ceiling tariff of Rs.3.10 per unit and the last date for bid submission is March 17th 2022.

(ii) During the review meeting conducted by MNRE with all states regarding progress of implementation of KUSUM Component-A, MNRE has stated that the following are the rates adopted by various states under KUSUM, Component -A for purchase of solar power:

Sl. No.	Name of the State	Rate per unit (inRs.)	Remarks
1	Uttar Pradesh	3.10	Already 106 MW commissioned
2	Kerala	3.50	Rate approved by State Commission
3	Maharashtra	3.10	
4	Odisha	3.08	
5	Rajasthan	3.14	Already 16 MW commissioned
6	Jharkhand	3.09	Rate approved by State Commission
7	Delhi	4.41	
8	Haryana	3.11	
9	Himachal Pradesh	3.38	
10	Telengana	3.13	
11	Triupura	3.31	

From the above, it is seen that the rate of Rs.2.99 per unit quoted by the two farmers is found to be lower than rates in most of the States.

3.11. As per the MNRE guidelines dated 22.07.2019 "DISCOM would be eligible to get PBI @ Rs.0.40 per unit purchased or Rs. 6.6 lakh per MW of capacity installed whichever is less/ for a period of five years from the COD.

Hence the tariff rate narrows down to Rs.2.59 (Rs.2.99-Rs.0.40= Rs.2.59) for the first five years from the COD which results in substantial savings to TANGEDCO.

3.12. MNRE in its order dated 13-01-2021 has allocated 75 MW for implementation of KUSUM-Component A scheme in the State of Tamil Nadu and this sanction is valid for a period of 24 months from the date of issue. Hence for availing the subsidy benefit, LOA has to be issued and subsequently PPA has to be executed with the above two bidders, on submission of performance guarantees.

3.13. The BOARD of TANGEDCO in its 106th meeting held on 19.03.2022 has accorded approval for the proposal placed seeking approval for issuance of LOA and subsequent signing of PPA with the two successful bidders for purchase of solar power totaling 3 MW @ Rs.2.99 per unit for a period of 25 years.

3.14. The Commission has accorded approval for procurement of 500 MW of solar power from individual farmers/ group of farmers / cooperatives / Panchayats /Farmer producer organizations (FPO) / Water user associations (WUA) /Developers on behalf

of the farmers by establishing solar power plants in Tamil Nadu of capacity 1 MW and upto 2 MW under Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyaan (PM-KUSUM) Scheme Component - A for an agreement period of 25 years, through its order dt 28.12.2021 for M.P.No.9 of 2021.

3.15. The Commission in its order dated 28.2.2021 has issued the following directions to TANGEDCO:-

..... "a. The proposal of the petitioner to purchase solar power from solar power plants of capacity 1 MW to 2 MW capacity under PM-KUSUM scheme Component A by bidding with a ceiling tariff of Rs.3 per unit, the bid specification subject to the deviations approved herein is approved. The petitioner's action of having floated the tender under specification No.CE/NCES/OT No.1/2020-21 is approved and ratified. TANGEDCO is directed to make all necessary corrections in the draft PPA and submit the PPA while filing the petition for tariff approval on completion of the bidding process furnishing complete details of the bidding process. TANGEDCO shall obtain the procurement based incentive for the approved quantum from MNRE.

b. Since interconnection to existing 11 KV/22KV/33KV lines has been permitted to invite more bids, the same is approved. Payment may be made for the net generation after accounting for the line losses.

c. MNRE has notified Component A scheme for renewable energy power plants of capacities from 500 kw to 2 MW. TANGEDCO in the bid specification has called for capacities ranging from 1 MW to 2 MW. The Commission approves this deviation as better tariffs could be obtained due to economies of scale.

d. The other deviations of (i) payment of late payment surcharge at 15 instead of the specified 1.5% in the MNRE guidelines and (ii) waiver of the LC mechanism of payment security and timelines for payment of monthly bills are approved considering the financial condition of the petitioner.

3.16. Based on the approval accorded by the Commission in its order dt 28.12.2021, as the rate quoted by the two bidders is reasonable it is prayed that the Commission may please approve for adopting the tariff of Rs.2.99 per unit offered by the two bidders,

arrived through reverse bidding process (e-tender) in respect of their proposed solar power plants of combined capacity of 3 MW to be commissioned under Component A of PM-KUSUM scheme against solar tender specification CE/NCES/OT.No.1/2020-21.

Sl. No.	Name of the Bidder	Capacity in MW	Rate per unit in Rs.	Connectivity SS
1	Mr.T.Palani, Ladavarnam, Arcot	2	Rs.2.99	33/11 Pudupadi SS of Vellore EDC
2	Mr.K.Sathyabal, Pallapatty, Dindigul East Taluk	1	Rs.2.99	110/11 Kv V.Kurumpatti SS of Dindigul EDC

3.17. This tender has been floated based on the guidelines issued by MNRE for implementation of PM-KUSUM guideline dt 22.07.2019, where there was no specific instruction that it is mandatory to use indigenously manufactured solar panels with indigenous solar cells and modules. However MNRE in its Memorandum No.283/54/2018-Grid Solar -part (2) dt 13.1.2022 has clarified that "Projects under Government schemes & Programmes' includes project set up under Component "A" of PM-KUSUM scheme. Hence while issue of LOA the bidders shall be requested to mandatorily use indigenously manufactured solar panels with indigenous solar cells and modules.

3.18. The petition filed before the Commission TANGEDCO had requested to approve for interconnecting the proposed solar power plants in the existing 11kV/22kV/33kV

lines. The Commission in its order dated: 28.12.2021 for M.P.No.09 of 2021 under clause 5.6.1, has directed that

..... “the losses upto the point of interconnection to existing 11kV/22kV/33kV may be determined based on the line losses notified in the Commission’s tariff order. Since the interconnection is to the existing 11 kV/22kV/33kV lines has been permitted to invite more bids the same is approved. Payment may be made for the net generation after accounting for the line losses”

In this regard it is to be stated that, both the bidders Mr.T.Palani, Ladavaram, Arcot and Mr. K.Sathyabal, Pallapatty, Dindigul East Taluk, on field inspection report have stated that they have proposed to interconnect their solar power plants in the existing 11kV lines. Hence it is proposed to levy transmission loss which is at present as per the Commission’s order dated 11.8.2017, is 3.91%. Payment shall be made for the net generation as specified below.

$$\text{Net Generation} = \text{Gross generation} - (\text{Gross generation} * 0.391)$$

3.19. As the sanction accorded by MNRE through its order dated 13.1.2021 is valid only for next 24 months, and as the projects have to be commissioned within the expiry of sanction, it is requested that Letter of Acceptance shall be issued , with clauses as per the specification approved by the Commission to the following eligible bidders in anticipation of approval of the Commission:

Sl. No.	Name of the Bidder	Capacity in MW	Rate per unit in Rs.
1	Mr.T. Palani, Ladavarnam, Arcot	2	Rs.2.99
2	Mr.K.Sathyabal, Pallapatty, Dindigul East Taluk	1	Rs.2.99

The main clauses to be adopted in the specification are:

- (i) Price: Firm price of Rs.2.99 per unit for 25 years from the date of COD.
- (ii) Performance guarantee: Rs.500000 per MW to be furnished within 30 days from the date of issue of LOA.
- (iii) Execution of PPA: Within two months from the date of issue of LOA.
- (iv) Commissioning period: 12 months from the date of issue of LOA.

For delay upto two months, the PBG shall be encashed on per day basis and for any further delay, the PPA capacity shall stand reduced / amended to the project capacity commissioned at the end of 14th month.

- (v) CUF: A minimum CUF of 15 % is required on annual basis and for the first year of operation, it shall be on pro-rate basis. However no penalty to be imposed for non -maintenance of CUF.

- (vi) Deduction of loss: As per the TNERC Regulations in force.

3.20. The Commission in its order dated 28.12.2021 for M.P No.19/2021 has pointed out certain corrections in the draft PPA submitted and has directed to make all necessary corrections in the draft PPA and submit the PPA while filing the petition for tariff approval on completion of the bidding process furnishing complete details of the bidding process.

3.21. As directed by the Commission, the revised draft PPA is submitted herewith after incorporating the following corrections:

- (i) The article Nos. has been correlated.
- (ii) The words and numbers entered have been corrected.
- (iii) The article 4.3.1 has been duly corrected for accounting the purchase of energy in the first year.
- (iv) In article 6.4, the word "Commission's orders" has been included.
- (v) In article 12.4.4 the percent denoted for adjusted equity has been corrected as 150%.

3.21. The Commission in its order dated 28.12.2021 has issued the following directions to TANGEDCO:

..... "5. 7 The proposal of the petitioner to purchase solar power from solar power plants of capacity 1 MW to 2 MW capacity under PM KUSUM scheme Component A by bidding with a ceiling tariff of Rs.3 per unit, the bid specification subject to the deviations approved herein is approved. The petitioner's action of having floated the tender under specification number CE/NCES/OT.No.01/2020- 20 is approved and ratified. TANGEDCO is directed to make all necessary corrections in the draft PPA and submit the PPA while filing the petition for tariff approval on completion of the bidding process furnishing complete details of the bidding process. TANGEDCO shall obtain the procurement based incentive for the approved quantum from MNRE".

3.22. In view of the above, it is prayed that the Commission may to-

- (a) approve for adopting the tariff of Rs.2.99 per unit offered by the following 2 bidders who are farmers , arrived through reverse bidding process (e-tender) in respect of their proposed solar power plants of combined capacity of 3 MW against solar tender specification CE/NCES/OT.No.1/2020-21 under Component "A" of PM-KUSUM scheme.

Sl. No.	Name of the bidder	Capacity in MW	Rate per unit in Rs.	Sub Station Connectivity
1	Mr.T Palani,Ladavaram, Arcot	2	2.99	33/11 kV Pudupadi SS of Vellore EDC
2	Mr.K.Sathyabal,Pallapatty, Dindigul East Taluk	1	2.99	110/11 kV V.Kurumpatti SS of Dindigul EDC

- (b) issue Letter of Award to the above two bidders in anticipation of approval with the technical and commercial clauses as approved by the Commission in the order dated 28.12.2021 for M.P.No.19 of 2021.
- (c) deduct line loss as discussed in para 17 and pay for the net generation after accounting the transmission loss.
- d) approve the draft PPA with the corrections incorporated as per the directions of the Commission.

4. Findings of the Commission:-

4.1 The prayer of the petitioner is to adopt the tariff of Rs.2.99 per unit arrived through reverse bidding process for a combined capacity of 3 MW offered by two bidders against the solar tender specification CE/NCES/OT.No.1/2020-21 under Component 'A' of PM-KUSUM scheme, to issue the letter of award with technical and commercial clauses approved in M.P No.9 of 2021, to deduct line losses and pay for net generation and approve the draft PPA.

4.2 Commission has already approved and ratified the action of the petitioner in floating the bid on 21.1.2021 vide tender specification CE/NCES/OT.No.01/2020-21 to procure power from decentralised solar power plants of capacities from 1 MW to 2 MW under component 'A' of PM-KUSUM scheme, generally in line with MNRE's guidelines, with a ceiling tariff of Rs.3 per unit in the petition filed in M.P No.9 of 2021. While according approval, certain corrections to be made in the PPA were indicated and the

petitioner was directed to furnish complete details of the bidding process on conclusion of the bidding.

4.3 TANGEDCO after making the corrections in the PPA has sought approval to adopt the tariff of Rs.2.99 per unit offered by the following two bidders who are farmers under

Component 'A' of PM- KUSUM scheme:

Sl. No.	Name of the bidder	Capacity in MW	Rate per unit in Rs.	Sub Station Connectivity
1	Mr.T Palani,Ladavaram, Arcot	2	2.99	33/11 kV Pudupadi SS of Vellore EDC
2	Mr.K.Sathyabal,Pallapatty, Dindigul East Taluk	1	2.99	110/11 kV V.Kurumpatti SS of Dindigul EDC

4.4 The petitioner has provided the reasonableness of per unit cost by comparing the purchase price of solar power through the PPA signed on 16.9.2021 and the rates adopted under PM-KUSUM scheme in many other States which are above Rs.3 per unit. The petitioner has further sought approval to make payment to the above selected bidders for net generation i.e gross generation –(gross generation *0.391[losses]) .

4.5 In view of the reasonableness of the prices and considering that the Distribution licensee, TANGEDCO is eligible to obtain the procurement based incentive at Rs.0.40 per unit or Rs.6.6 lakhs per MW capacity installed, whichever is less, on timely execution of the PPA, Commission approves adoption of the tariff of Rs.2.99 per unit under section 63 of the Electricity Act 2003, and for issue of letter of award to the two bidders indicated above and subsequent execution of PPA for a period of 25 years. In

regard to the approval sought to make payment for the net generation to the bidders, since generation from the plant will be consumed by nearby loads which aids in reducing line losses of the Licensee, in accordance to the principles adopted in the Generic Tariff Order for Grid Interactive PV Solar Energy Generating System (GISS) where it has been observed that 'agricultural feeders are ideally suited to effectively utilize the potential of solar energy through the gross metering mechanism. The segment of agricultural network has been the perennial loss pocket with lengthy lines and wide LT network. The continuing bad performing trend of agricultural feeders plagued by inefficiency over the decades, could be reversed if the feeders are taken over by GISS through gross metering by establishing a service line of power evacuation as an interface between the GISS of open area and the nearby agricultural HT feeder concerned. the load will be very much nearer to the generation point and hence the very meagre line loss component is not considered', the petitioner is directed to make payment for the gross generation of the solar power plants of the bidders. The solar power procured from these power plants may be accounted for RPO. If the generation is connected directly to the nearby SS then the meter may be provided at SS end and the gross generation paid.

(Sd.....)
(K.Venkatasamy)
Member (Legal)

(Sd.....)
(M.Chandrasekar)
Chairman

/True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission