

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

PRESENT:-

Thiru S.Akshayakumar	Chairman
Thiru G.Rajagopal	Member
	and	
Dr.T.Prabhakara Rao	Member

M.P.No.8 of 2017

Tamil Nadu Generation and Distribution
Corporation Limited
Represented by the Chief Engineer /
Non-Conventional Energy Sources
144, Anna Salai
Chennai – 600 002.

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

Vs.

Nil	... Respondent
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Date of hearing: 25-04-2017

Date of Order: 10-07-2017

The M.P.No.8 of 2017 came up for hearing on 25-04-2017. The Commission upon perusal of the Petition and connected records and after hearing the submissions of the Petitioner hereby makes the following:

ORDER

1. Prayer of the Petitioner in M.P.No.8 of 2017:-

The prayer of the Petitioner in the above M.P.No.8 of 2017 is to grant permission to TANGEDCO for procurement of 1500 MW solar power from the solar power developers through reverse bidding process with Rs.4.00 per unit, as upper

limit and to approve the tender specification evolved by the TANGEDCO in line with the draft guidelines for the grid connected solar PV power plants issued by the Central Government.

2. Prayer of the Petitioner in the additional affidavit dated 26-04-2017:-

In the additional affidavit dated 26-04-2017, the Petitioner has prayed to approve the following changes in the Request for Submission document (RFS) namely:-

- (a) The applicable EMD to be furnished by the bidder is Rs.25,000/- per MW for capacity upto 100 MW and Rs.50,000/- per MW for capacity exceeding 100 MW instead of Rs.5 lakhs per MW and it shall be accepted in the form of Bank Guarantee or Demand Draft or cash or Banker's Cheque.
- (b) The execution period of establishing solar power plant is 12 months from the date of signing Power Purchase Agreement (PPA) for capacities upto 50 MW and 24 months from the date of signing PPA for capacities more than 50 MW.

3. Facts of the Case:-

The present petition is being filed seeking permission for procurement of 1500 MW solar power by TANGEDCO from the private developers through reverse bidding process considering the tariff of Rs.4.00 per unit, as upper limit, and to approve the tender specification evolved by the TANGEDCO in line with the draft guidelines for the grid connected solar PV power plants issued by the Central Government.

4. Contentions of the Petitioner in M.P.No.8 of 2017:-

4.1. The Tamil Nadu State Solar Energy Policy - 2012 had been announced by Hon'ble Chief Minister of Tamil Nadu on 20.10.2012. In the policy it was proposed to establish solar PV power plants for a capacity of 3000 MW by the end of 2015 through Utility Scale Projects, Roof tops and REC mechanism. Also as per the Tamil Nadu Government's VISION 2023 Solar power generation programme, it is expected to generate grid connected solar power of 5000 MW by the year 2020 for the State.

4.2. In the meantime, the Commission was pleased to issued 'Comprehensive Tariff order on solar power' vide Order No.7 of 2014 dated 12.09.2014, fixing the following tariff for procurement of power generated from Solar Photo Voltaic (SPV) plants under preferential tariff scheme:-

(a) Rs.7.01 per unit without Accelerated Depreciation (AD) benefit.

(b) Rs.6.28 per unit with AD benefit.

The above tariffs were made applicable for the plants commissioned up to 31.03.2016.

4.3. The Order No.7 of 2014 was implemented by the TANGEDCO under preferential tariff scheme and 86 developers for a combined total capacity of 1484 MW have entered into Energy Purchase Agreement with TANGEDCO. Out of this, 78 Power plants to a combined total capacity of 1409 MW have been commissioned so far.

4.4. The Commission vide notification dated 07.03.2016 has issued following amendment to the Renewable Energy Purchase Obligation Regulation, 2010:

"(1) Every obligated entity shall purchase not less than defined minimum percentage of its consumption of energy from renewable energy sources under the Renewable Purchase Obligation (RPO) during a year as specified below:

(IA) The following percentage of Renewable Purchase Obligation is fixed:

Sl. No.	Year	Minimum quantum of total renewable purchase obligation in percentage (in terms of energy in KWh)	Minimum quantum of solar renewable purchase obligation in percentage out of the total renewable purchase obligation mentioned in Column (3) (in terms of Energy in KWh)
(1)	(2)	(3)	(4)
1.	2015-16	9.50%	0.50%
2.	2016-17	11.50%	2.50%
3.	2017-18	14.00%	5.00%

The Renewable Purchase Obligations as specified for the year 2011-12 in sub-regulation (1) shall be applicable for the years 2012-13, 2013-14 and 2014-15 to the distribution licensee."

4.5. In compliance with the above said RPO, the required capacity of the solar power plant as on date is as follows:

Sl. No	Year	Solar RPO Target	Total electricity units sold and expected to be sold to different category of consumers	Electricity units to be procured in proportionate to solar RPO	Total capacity of solar power generation required to meet out solar RPO	Expected capacity of solar power generation to be available in MW	Capacity of solar power generation required to be added
1	2015-16	0.5%	95050 MU	475 MU			
2	2016-17	2.5%	99802 MU	2495 MU	1560 MW	Capacity available as on date 1435 MW	
3	2017-18	5%	104792 MU	5240 MU	3275 MW	1679 MW (1435 + 20 + 224)	1596 MW

The above tabular column revealed that there is short fall of 1596 MW in meeting out solar RPO of 5 % for the year 2017-18.

4.6. M/s.NLC has executed PPA with TANGEDCO for the establishment of 130 MW solar power plant for selling the power to TANGEDCO under preferential tariff scheme at the tariff of Rs.5.10 per unit and they have executed another PPA with TANGEDCO for the establishment of 500 MW solar power plant for selling the power to TANGEDCO at the tariff of Rs.4.56 per unit, fixed by the Commission in its Order No.2 dated 28.03.2016. M/s.NHPC Limited has also executed PPA with TANGEDCO for the establishment of 50 MW solar power plant under preferential tariff scheme at the tariff of Rs.4.56 per unit fixed by the Commission in its Order No.2 dated 28-03-2016. Considering the above said upcoming projects, TANGEDCO requires approximately 916 MW (1596 MW – 680 MW) to meet its RPO requirement for the year 2017-18.

4.7. The MNRE has fixed solar RPO target of 4553 MW for the year 2018-19. Considering this target, TANGEDCO requires approximately 2194 MW (4553 MW-(1679+680)) of solar power towards RPO compliance for the year 2018-19.

4.8. Meanwhile the Commission has issued preferential tariff order vide Order No.2 of 2016 dated 28.03.2016 fixing tariff of Rs.5.10 per unit without AD benefit and Rs.4.56 per unit with AD benefit for the solar PV projects commissioned on or after 01.04.2016.

4.9. In order to meet RPO targets fixed by the Commission, TANGEDCO has filed a petition in M.P.No.13 of 2016 before the Commission seeking permission for procurement of solar power of 500 MW from the private developers through reverse bidding process with a bench mark rate of Rs.5.10 per unit, fixed by the Commission in its Order No.2 of 2016 dated 28-03-2016, as upper limit and to approve the tender specification evolved by the TANGEDCO in line with the draft guidelines issued by the Central Government.

4.10. The Commission has accorded approval for the petition in M.P.No.13 of 2016 for the procurement of 500 MW of solar power under reverse bidding process through e-bidding and accorded in principle approval for the draft tender document and draft PPA vide orders dated 29.08.2016. Further, the Commission issued the following directions to TANGEDCO:-

(i) TANGEDCO shall publish the notice inviting tender in atleast two daily newspapers, in English and Tamil, having wide circulation and host in the website.

Clarifications/revised bidding documents shall be uploaded in TANGEDCO's website after the pre bid meeting and minimum 15 days time granted for submission of bids. Model Power Purchase Agreement may also be amended based on inputs received from the parties and uploaded in TANGEDCO's website.

(ii) Bidding shall be conducted in a transparent manner. Evaluation of the bids shall be undertaken with a proper committee in place before the bidding process.

(iii) Notwithstanding the above, if the number of qualified bidders is less than two, the petitioner shall seek approval from the Commission to continue with the bidding process.

4.11. The Commission further directed that TANGEDCO shall seek approval for procurement of solar power on the basis of tariffs determined in the bidding process.

4.12. Based on the approval of the Commission, tender (Phase I) was floated for the procurement of 500 MW of solar power through e-bidding on 20.10.2016. 20 bidders participated in the e-tender for the establishment of solar power plants in Tamil Nadu for a combined capacity of 122 MW. Out of the 20 bidders, 2 bidders namely M/s.GRT & Sons and M/s. GRT Firm offered the lowest rate of Rs.4.50 per unit in respect of their proposed solar power plant of 10 MW each, against solar tender specification CE/NCES/OT.No.1/2016-17. The rate offered by the eligible bidders was more competitive and accepted by the TANGEDCO and TANGEDCO has executed PPA with these developers on 10.02.2017.

4.13. As targeted capacity has not been achieved through Phase I tender, TANGEDCO filed a petition in M.P.No.30 of 2016 before the Commission seeking permission for procurement of solar power of 500 MW from the private developers through reverse bidding process with a bench mark rate of Rs.4.50 per unit, which was arrived based on Phase I tender, as upper limit and to approve the tender specification evolved by the TANGEDCO in line with the draft guidelines issued by the Central Government.

4.14. The Commission accorded approval for the petition in M.P.No.30 of 2016 for the procurement of 500 MW of solar power under reverse bidding process through e-bidding and accorded in principle approval for the draft tender document and draft PPA vide order dated 29.12.2016.

4.15. Based on the approval of the Commission, tender (Phase II) was floated for the procurement of 500 MW of solar power through e-bidding on 05.01.2017. 20 bidders participated in the e-tender for the establishment of solar power plants in Tamil Nadu for a combined capacity of 292 MW. Out of the 20 bidders, 16 bidders for a combined capacity of 224 MW offered the lowest rate of Rs.4.40 per unit in respect of their proposed solar power plants, against solar tender specification CE/NCES/OT.No.3/2016-17. The rate offered by the eligible bidders was more competitive and accepted by the TANGEDCO.

4.16. Out of the targeted 1000 MW capacity, only 244 MW capacity of solar power plants has been finalized in respect of tender specification of CE/NCES/OT.No.1/2016-17 and CE/NCES/OT.No.3/2016-17.

4.17. To meet solar RPO of 5% for the year 2017-18 as fixed by the Commission and to meet RPO target fixed by the MNRE for the year 2018-19 and to avoid purchase of solar certificate in power exchange in case of failure of compliance of solar RPO, TANGEDCO is required to procure solar power of 2194 MW of solar power from the developers at a tariff other than average pooled cost. Hence, TANGEDCO has proposed to float another tender of 1500 MW capacity through reverse bidding process (e-bidding).

4.18. The Commission has issued preferential tariff order vide Order No.2 of 2017 dated 28.03.2017 fixing tariff of Rs.4.50 per unit without Accelerated Depreciation Benefit (AD) and Rs.4.41 per unit with AD benefit for the solar photo voltaic power plants.

4.19. The solar tariffs are declining day to day mainly due to the reduction in the cost of solar photo voltaic panels. Solar tariff has fallen to all time low of Rs.3 per unit, which was quoted by Amplus Energy Solutions in an auction for roof top solar power conducted by M/s.SECI. Further, solar tariff has reached a historic low of Rs.2.97 per unit at Rewa Bidding of Madhya Pradesh. The Commission has fixed preferential tariff as Rs.4.50/4.41 per unit (without AD benefit/with AD benefit) for the year 2017-18 and TANGEDCO has finalized tariff of Rs.4.40 per unit for the procurement of solar power from 16 bidders for a combined capacity of 224 MW against tender specification CE/NCES/OT.No.3/2016-17. Considering all the above, TANGEDCO has proposed to fix bench mark tariff of Rs.4.00 per unit, as upper limit in this tender.

4.20. The (Tender Specification) Request for Submission document (RFS document) format in line with draft guidelines and in line with an amendment therein issued by the MNRE, similar to the format of previous two tender specifications, with meagre changes like, upper limit rate (Rs.4.40 per unit) and quantum of Procurement (1500 MW), regarding procurement of 1500 MW solar power from private developers through reverse bidding process has been evolved.

4.21. In the additional affidavit dated 26-04-2017, the Petitioner has prayed to approve the following changes in the Request for Submission document (RFS) namely:-

- (a) The applicable EMD to be furnished by the bidder is Rs.25,000/- per MW for capacity upto 100 MW and Rs.50,000/- per MW for capacity exceeding 100 MW instead of Rs.5 lakhs per MW and it shall be

accepted in the form of Bank Guarantee or Demand Draft or cash or Banker's Cheque.

(b) The execution period of establishing solar power plant is 12 months from the date of signing Power Purchase Agreement (PPA) for capacities upto 50 MW and 24 months from the date of signing PPA for capacities more than 50 MW.

5. Findings of the Commission:-

5.1. The petitioner, Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), has filed this petition under section 86(1) (b) of the Electricity Act, 2003 (Central Act 36 of 2003) seeking permission for procurement of 1500 MW of solar power from solar power developers through reverse bidding process with Rs.4.00 per unit as the upper limit and to approve the tender specification for the bidding process.

5.2. The approval has been sought citing the States' Solar Policy, 2012 that envisaged establishment of solar power plants of capacity of 3000 MW by 2015 and Tamil Nadu Government's vision document 2023 of generating 5000 MW of solar power by 2020, the impetus of MNRE to contract higher solar capacity and the distribution licensee's requirement of solar power to meet the solar energy purchase obligation for the year 2018-19. Due to the declining trend of solar tariffs, and the low bidding prices in the country like in the auctions conducted by SECI where Amplus Energy Solutions quoted Rs.3 per unit and the low tariffs of Rs.2.97 per unit that reached at the Rewa bidding, the petitioner has requested for approval to proceed with the reverse bidding fixing a ceiling price of Rs.4.00 per unit.

5.3. The petitioner had sought approval twice before this Commission for procurement of solar power through reverse bidding process to meet their renewable energy purchase obligation at a ceiling price of Rs.5.10 per unit and Rs.4.50 per unit. Approval was accorded by the Commission for procurement of 500 MW through reverse bidding with Rs.5.10 per unit as the ceiling price in M.P No.13 of 2016 dated 29.08.2016. The petitioner was able to attract only 20 MW of solar capacity at a price of Rs.4.50 per unit through the above reverse bidding and hence sought approval to proceed with reverse bidding for the second time for the same quantum of 500 MW at a ceiling price of Rs.4.50 per unit. Commission accorded approval in M.P No.30 of 2016 to proceed with the second reverse bidding as requested by the petitioner with liberty to restrict the purchase after a prudence check with energy consumption and reduction of energy generated from hydro sources. Through the second bidding process, the petitioner has garnered a capacity of 224 MW at a price of Rs.4.40 per unit.

5.4. In the case on hand, approval has been sought for procurement of 1500 MW to meet the Renewable Energy Purchase Obligation (RPO) for the year 2017-18 and beyond, projecting a consumption of 104792 MU during the year 2017-18 and a requirement of 916 MW for 2017-18 after accounting the PPAs signed with M/s.NLC and M/s.NHPC for 630 MW and 50 MW respectively and a requirement of 1596 MW for future compliance of RPO with reference to the target of MNRE. The bid document though on the lines of the draft guidelines issued by MNRE for Tariff based competitive bidding process for Grid connected Solar PV projects, certain relaxations have been made with respect to the Earnest Money Deposit to be paid, financial criteria etc..

5.5. Keeping in view the promotional policies of renewable energy in the Electricity Act, 2003, National Electricity Policy, Tariff Policy and the State's policy and that of Ministry of New and Renewable Energy, Government of India on solar energy, Commission's own tariff order on solar power that permits the distribution licensee to procure solar power at competitive rates, and the guidelines of MNRE being in the draft stage, Commission during the hearing held on 25.04.2017 has directed the petitioner to proceed with the tendering process. The petitioner in the additional affidavit filed has sought approval to further relax the Earnest Money Deposit from Rs.5 Lakhs per MW to Rs.25,000 per MW for capacity upto 100 MW and Rs.50,000 per MW for capacity exceeding 100 MW and relax the period of execution from the date of signing of the PPA from 12 months to 24 months for capacities more than 50 MW to attract competitive bids large in number.

5.6. Commission accepts the above request of the petitioner and ***in exercise of section 86 (1)(b) of the Electricity Act, 2003*** accords approval for procurement of 1500 MW of solar power through reverse bidding at Rs.4.00 per unit as the upper limit. While accepting projects the petitioner may exercise discretion with respect to factors on bankability of projects, price per unit offered considering the long term of execution of 24 months permitted due to the falling rates of solar power, and the capacity that is required to be contracted vis-a-vis energy consumption. Directions on the alignment of the Power Purchase Agreements and modifications thereof after the outcome of the pre-bid meeting and the process of inviting tenders have been issued in previous orders of the Commission in M.P No.13 of 2016 dated 29.08.2016 and M.P.No.30 of 2016 dated 29.12.2016. The same shall be followed. While perusing the bid document, it was noticed that the evacuation facilities available from a single sub-station are for capacities upto 200 MW whereas the maximum bid

capacity quoted is 500 MW in a single location. This aspect may be taken care of while finalizing the offers. Prior approval for procurement of solar power on the basis of tariffs obtained in the reverse bidding process shall be obtained from the Commission furnishing full details of the tendering process including details of the evaluation committee, tariffs quoted by the other bidders and a copy of power purchase agreement to be signed with the developers.

6. Appeal:-

An appeal against this order shall lie before the Appellate Tribunal for Electricity under section 111 of the Electricity Act, 2003 within a period of 45 days from the date of receipt of a copy of this order by the aggrieved person.

(Sd)
(Dr.T.Prabhakara Rao)
Member

(Sd.....)
(G.Rajagopal)
Member

(Sd.....)
(S.Akshayakumar)
Chairman

/True Copy /

Secretary
Tamil Nadu Electricity
Regulatory Commission