

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

**PRESENT:**

ThiruM.Chandrasekar	.... Chairman
Dr.T.PrabhakaraRao	.... Member
and	
ThiruK.Venkatasamy	.... Member (Legal)

**M.P. No.8 of 2020**  
**and**  
**P.P.A.P. No.1 of 2020**

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

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

**Dates of hearing** : **25-02-2020 and 10-03-2020**

**Date of Order** : **09-06-2020**

The M.P.No.8 of 2020 came up for final hearing on 25-02-2020. The P.P.A.P. No. 1 of 2020 came up for final hearing on 10-03-2020. The M.P. No.8 of 2020 is filed for the quantity approval of 500 MW of Solar Power from SECI and P.P.A.P. No.1 of 2020 is the sequel to the prayer in the M.P. No.8 of 2020 seeking price approval for the said quantity of 500 MW solar power. The Commission upon perusal of the petitions and connected records and after hearing the submissions of the petitioner hereby makes the following:-

## **COMMON ORDER**

### **1. Prayer of the Petitioner in M.P. No.8 of 2020:-**

The prayer of the petitioner in this petition is to grant permission to TANGEDCO for procurement of 500 MW solar power from M/s. Solar Energy Corporation of India under 1200 MW ISTS Scheme, Tranche VI.

### **2. Prayer of the Petitioner in P.P.A.P. No.1 of 2020:-**

The prayer of the petitioner in P.P.A.P. No. 1 of 2020 is to procure 500 MW of solar power from M/s.Solar Energy Corporation of India (SECI) under 1200 MW ISTS scheme, Tranche-VI expected to be commissioned during 2021-22 at the rate of Rs.2.781 per unit (Applicable tariff of Rs.2.711/Unit + SECI's trade margin of Rs.0.07/Unit) by executing Power Sale Agreement (PSA) on long term basis to meet TANGEDCO's RPO requirement.

### **3. Facts of the Case:-**

This Miscellaneous Petition has been filed seeking permission for procurement of 500 MW solar power by TANGEDCO from M/s. Solar Energy Corporation of India (SECI) and the P.P.A.P. No.1 of 2020 has been fixed for approval for purchase of this said power at the rate of Rs.2.781 per unit under SECI's 1200 MW ISTS scheme, Tranche-VI by entering into a long term agreement to meet TANGEDCO's RPO requirement. The petitioner has paid the applicable court fees separately for M.P. No. 8 of 2020 and P.P.A.P. No.1 of 2020.

### **3. Contentions of the Petitioner:-**

The Petitioner in his affidavit dated 19-02-2020 in M.P. No. 8 of 2020 has submitted as follows:-

3.1. The Government of India has executed, "Paris Agreement COP 21" wherein the country has committed to reduce the emissions intensity of its GDP by 33.35% by 2030 from 2005 levels by increasing the share of non-fossil fuel based energy resources to 40% of installed electric power capacity by 2030. With this commitment, the Government of India has set a target of 100 GW of solar power, 60 GW of Wind power, 10 GW from bio-power and 5 GW from small Hydro power.

3.2. In order to increase the share of renewable energy in the State of Tamil Nadu, Tamil Nadu Solar Energy Policy, 2012 was announced, wherein 3000 MW of solar power plants have to be commissioned by 2015. Subsequently, Tamil Nadu Solar Energy Policy, 2019 has been announced with an ambitious target of around 9000 MW of solar power plants by 2022.

3.3. As on 31.01.2020 the total installed capacity of solar PV power plants viz. Utility Scale Projects and Consumer Scale Solar Power Plants in the State is around 3975 MW.

3.4. In order to achieve the renewable energy targets, "Renewable Purchase Obligation" has been fixed by both Ministry of Power and by the TNERC. The details of year wise RPO target for solar power fixed to the State by the TNERC and Ministry of Power, out of total consumption in percentage is as follows:

Sl.No.	Year	TNERC	MNRE
1	2014-15	0.05%	---
2	2015-16	0.5%	---
3	2016-17	2.5%	2.75%
4	2017-18	5.0% (*)	4.75%
5	2018-19	5.0% (*)	6.75%
6	2019-20	6.0% (*)	7.25%
7	2020-21	8.0% (*)	8.75%
8	2021-22	10.50% (*)	10.50%

(\*) RPO target as per TNERC's draft Regulations.

The details of year wise RPO target for solar power fixed to the State by Ministry of Power in MW are as follows:

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Target in MW	1983	3282	4553	6223	8051	9398

3.5. As per the MNRE target, approximately 9000 MW of solar power is required for the year 2021-22 to meet Tamil Nadu's Solar Purchase Obligation. As on 31.01.2020 approximately 4000 MW of solar power plants have been commissioned in the State. As per the MNRE target, 5000 MW of solar power is required within next two years.

3.6. Considering the on-going projects, approximately 250 MW capacity can be added through phase 3 tender for the year 2019-20. The proposed solar projects viz. 500 MW Kadaladi solar park and 250 MW Floating Solar Plant are expected to be commissioned only during 2021-22.

3.7. Based on the approval of the TNERC in MP.No.13 of 2016, TANGEDCO has floated tender (phase 1) for the procurement of 500 MW of solar power from

the developers establishing solar power plants in Tamil Nadu under reverse bidding process. 20 developers have participated in the tender for the establishment of solar power plants of combined capacity of 122 MW. Out of 20 developers, PPA was entered with only two developers and they have commissioned their solar plants of combined capacity of 20 MW for supplying solar power to TANGEDCO at the rate of Rs.4.50 per unit on long term basis.

3.8. Based on the approval of the TNERC in MP.No.30 of 2016, TANGEDCO has floated another tender (phase 2) for the procurement of 500 MW of solar power from the developers establishing solar power plants in Tamil Nadu under reverse bidding process. 20 developers have participated in the tender for the establishment of solar power plants of combined capacity of 292 MW. Phase 2 tender was lodged by TANGEDCO at initial stage itself.

3.9. As the targeted quantum was not achieved in phase 1 & phase 2 tenders, TANGEDCO has floated tender (phase 3) for the procurement of 1500 MW of solar power from the developers establishing solar power plants in Tamil Nadu under reverse bidding process. The TNERC has approved the "procurement quantum" in MP.No.8 of 2017. In phase 3 tender, 17 developers have executed Power Purchase Agreement with TANGEDCO for supplying solar power at the rate of Rs.3.47 per unit on long term basis from their proposed solar power plants of combined capacity of 1500 MW. Out of 1500 MW, solar plants of combined capacity of 1244 MW have been commissioned. As there was no competitive bidding guidelines at that time, all the above tenders (phase 1 to 3) were floated based on the draft guidelines issued by the Ministry of Power.

3.10. Even after floating phase 3 tender, still there is a shortfall in RPO to the State. In order to meet RPO targets fixed by the Central Government to the State and as per Tamil Nadu Government's VISION 2023 programme, TANGEDCO has proposed to procure 1500 MW of solar power from the developers establishing solar power plants in Tamil Nadu through competitive bidding process, considering upper limit tariff of Rs.3.00 per unit by floating phase 4 tender following the bidding guidelines issued for Tariff based Competitive Bidding Process for procurement of power from grid connected solar PV projects vide Ministry of Power resolution dated 03.08.2017.

3.11. TANGEDCO has filed a petition in M.P.No.9 of 2018 before the Commission seeking approval for floating tender for the procurement of 1500 MW of solar power, considering the upper limit tariff of Rs.3.00 per unit.

3.12. The Commission has accorded quantum approval in M.P.No.9 of 2018 on 24.04.2018 permitting TANGEDCO for floating tender for the procurement of 1500 MW of solar power from the developers establishing solar power plants in Tamil Nadu in three stages of 500 MW each through competitive bidding process, considering the upper limit tariff of Rs.3.00 per unit.

3.13. Accordingly, the phase 4, stage 1 tender was floated on 26.11.2018 with a due date of opening techno commercial bid on 27.12.2018. There was no response received against the tender on the due date i.e., on 27.12.2018. As no response was received, the time extension for opening the tender was extended upto

10.01.2019. But, there was no response from the bidders even after extending the due date of tender opening upto 10.01.2019.

3.14. Hence, the time extension for opening the tender has been once again extended upto 31-01-2019. But, there was no response from the bidders even after extending the due date of tender opening upto 31-01-2019. Since there was no response from the bidders after extending the due dates twice, the tender was lodged by TANGEDCO.

3.15. As there was no response for the tender (Phase-IV, Stage-I) floated by TANGEDCO, in order to meet the solar RPO, the Board of TANGEDCO in the 86<sup>th</sup> meeting held on 28.02.2019 has accorded approval to authorize SECI to float tender for procurement of 1500 MW of solar power from the developers establishing solar power plants in the State under reverse auction process with upper ceiling limit of Rs.2.85 per unit (exclusive of trade margin of Rs.0.07 per unit) on behalf of TANGEDCO. In this connection, authorization letter has been issued to SECI on 01.03.2019 for floating of tender for setting up of 1000 MW grid connected solar PV project with 500 MW in each phase in Tamil Nadu through e-reverse auction process on behalf of TANGEDCO by fixing upper ceiling limit of Rs.2.85 per unit plus 7 paise per unit as trade margin under Stage-I and 500 MW with battery storage in Stage-II. The tender for setting up of 500 MW grid connected solar PV projects in Stage-I by reverse auction process on behalf of TANGEDCO was opened by SECI, and in spite of extending the due date none of the developers participated in the tender. Since there was no response, based on the discussion with SECI, the upper ceiling limit has been enhanced from of Rs.2.85 per unit to

Rs.2.93 per unit exclusive of trade margin of Rs.0.07 paise per unit. With this tariff revision, SECI has floated the tender again. In spite of revision in the upper ceiling limit, there has been no response from the bidders.

3.16. In the meantime, M/s. Solar Energy Corporation of India (SECI) vide letter dated 01.11.2019 has requested TANGEDCO to confirm the solar power requirement to Tamil Nadu under 1200 MW ISTS connected scheme, Tranche VI tender floated by them, in which solar projects are expected to be commissioned during 2021-22. The applicable tariff under this scheme is Rs.2.781/unit (Applicable tariff of Rs.2.711/unit + trade margin of Rs.0.07/unit). Based on the offer of SECI and the tariff offered by SECI is found to be very competitive, TANGEDCO has requested for allotment of 500 MW of solar power from SECI at the rate of Rs.2.781/unit (Applicable tariff of Rs.2.711/unit + trade margin of Rs.0.07/unit) for a period of 25 years to meet its RPO requirement. M/s. SECI in their e-mail dated 22.11.2019 has confirmed allotment of 500 MW subject to opening of Letter of Credit (LC) and as per the terms and conditions of Power Sale Agreement (PSA).

3.17. In order to meet the RPO compliance fixed to the State, it is necessary to procure 500 MW of solar power from M/s.Solar Energy Corporation of India (SECI), under 1200 MW ISTS scheme, Tranche-VI. M/s. SECI has offered tariff of Rs.2.781/unit (Applicable tariff of Rs.2.711/unit + trade margin of Rs.0.07/unit) under 1200 MW ISTS scheme, Tranche-VI and the tariff offered by M/s. Solar Energy Corporation of India is found to be very competitive.



3.18. TANGEDCO has proposed to procure 500 MW of solar power from M/s. Solar Energy Corporation of India (SECI) at the rate of Rs.2.781/unit (Applicable tariff of Rs.2.711/unit + trade margin of Rs.0.07/unit) under 1200 MW ISTS scheme, Tranche-VI by executing Power Sale Agreement with SECI on long term basis i.e. for a period of 25 years.

#### 4. Findings of the Commission:-

4.1. We have heard the petitioner. The petitioner TANGEDCO has sought permission for procurement of 500 MW solar power from Solar Energy Corporation of India (SECI) for 25 years at the rate of Rs.2.71 per unit + Rs.0.07 per unit as Trade Margin under SECI's 1200 MW ISTS Scheme, TRANCHE-VI to meet TANGEDCO's RPO requirement.

4.2. The petitioner has submitted that the Government of India has set a target of 100 GW of Solar Power, 60 GW of Wind Power, 10 GW from Bio-power and 5 GW from small Hydro power.

4.3. The RPO target for solar power fixed to the State by the TNERC and Ministry of Power out of total consumption in percentage is as follows:

Sl.No.	Year	TNERC	MNRE
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The details of year wise RPO target for solar power fixed to the State by Ministry of Power in MW are as follows:

Year	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Target in MW	1983	3282	4553	6223	8051	9398

4.4. As per the MNRE target, approximately 9000 MW of solar power is required for the year 2021-22 to meet Tamil Nadu's Solar Purchase Obligation. As on 31.01.2020 approximately 4000 MW of solar power plants have been commissioned in the State. As per the MNRE target, 5000 MW of solar power is required within next two years.

4.5. The petitioner has also stated that based on the approval of the TNERC in MP.No.13 of 2016, TANGEDCO has floated tender (phase 1) for the procurement of 500 MW of solar power from the developers establishing solar power plants in Tamil Nadu under reverse bidding process. Only two developers have commissioned their solar plants of combined capacity of 20 MW for supplying solar power to TANGEDCO at the rate of Rs.4.50 per unit on long term basis.

4.6. Further based on the approval of the TNERC in MP.No.30 of 2016, TANGEDCO has floated another tender (phase 2) for the procurement of 500 MW of solar power from the developers establishing solar power plants in Tamil Nadu under reverse bidding process. 20 developers have participated in the tender for the establishment of solar power plants of combined capacity of 292 MW and the Phase 2 tender was lodged by TANGEDCO at initial stage itself.

4.7. As the targeted quantum was not achieved in phase 1 & phase 2 tenders, TANGEDCO has floated tender (phase 3) for the procurement of 1500 MW of solar power from the developers establishing solar power plants in Tamil Nadu under reverse bidding process.

4.8. Even after floating phase 3 tender, still there is a shortfall in RPO to the State. In order to meet RPO targets fixed by the Central Government to the State and as per Tamil Nadu Government's VISION 2023 programme, TANGEDCO has initially proposed to procure 1500 MW of solar power from the developers establishing solar power plants in Tamil Nadu through competitive bidding process, considering upper limit tariff of Rs.3.00 per unit by floating phase 4 tender following the bidding guidelines issued for Tariff based Competitive Bidding Process for procurement of power from grid connected solar PV projects vide Ministry of Power resolution dated 03.08.2017.

4.9. The Commission has also accorded quantum approval in M.P.No.9 of 2018 on 24.04.2018 permitting TANGEDCO for floating tender for the procurement of the above said 1500 MW of solar power from the developers establishing solar power plants in Tamil Nadu in three stages of 500 MW each through competitive bidding process, considering the upper limit tariff of Rs.3.00 per unit.

4.10. However, there was no response from the bidders after extending the due dates twice, the tender was lodged by TANGEDCO.

4.11. As there was no response for the tender (Phase-IV, Stage-I) floated by TANGEDCO, in order to meet the solar RPO, the Board of TANGEDCO in the 86<sup>th</sup> meeting held on 28.02.2019 has accorded approval to authorize SECI to float tender for procurement of 1500 MW of solar power from the developers establishing solar power plants in the State under reverse auction process with upper ceiling limit of Rs.2.85 per unit (exclusive of trade margin of Rs.0.07 per unit) on behalf of TANGEDCO. In this connection, authorization letter has been issued to SECI on 01.03.2019 for floating of tender for setting up of 1000 MW grid connected solar PV project with 500 MW in each phase in Tamil Nadu through e-reverse auction process on behalf of TANGEDCO by fixing upper ceiling limit of Rs.2.85 per unit plus 7 paise per unit as trade margin under Stage-I and 500 MW with battery storage in Stage-II. The tender for setting up of 500 MW grid connected solar PV projects in Stage-I by reverse auction process on behalf of TANGEDCO was opened by SECI on the due date and in spite of extending the due date none of the developers participated in the tender. Since there was no response, based on the discussion with SECI, the upper ceiling limit has been enhanced from Rs.2.85 per unit to Rs.2.93 per unit exclusive of trade margin of Rs.0.07 paise per unit. With this tariff revision, SECI has floated the tender again. In spite of revision in the upper ceiling limit, there has been no response from the bidders.

4.12. In the meantime, M/s. Solar Energy Corporation of India (SECI) vide letter dated 01.11.2019 has requested TANGEDCO to confirm the solar power requirement to Tamil Nadu under 1200 MW ISTS connected scheme, Tranche VI tender floated by them, in which solar projects are expected to be commissioned during 2021-22. The applicable tariff under this scheme is Rs.2.781/unit (Applicable

tariff of Rs.2.711/unit + trade margin of Rs.0.07/unit). Based on the offer of SECI and the tariff offered by SECI is found to be very competitive, TANGEDCO has requested for allotment of 500 MW of solar power from SECI at the rate of Rs.2.781/unit (Applicable tariff of Rs.2.711/unit + trade margin of Rs.0.07/unit) for a period of 25 years to meet its RPO requirement. M/s. SECI in their e-mail dated 22.11.2019 has confirmed allotment of 500 MW subject to opening of Letter of Credit (LC) and as per the terms and conditions of Power Sale Agreement (PSA).

4.13. In order to meet the RPO compliance fixed to the State, it is necessary to procure 500 MW of solar power from M/s.Solar Energy Corporation of India (SECI), under 1200 MW ISTS scheme, Tranche-VI. M/s. SECI has offered tariff of Rs.2.781/unit (Applicable tariff of Rs.2.711/unit + trade margin of Rs.0.07/unit) under 1200 MW ISTS scheme, Tranche-VI and the tariff offered by M/s. Solar Energy Corporation of India is found to be very competitive.

4.14. As per the provisions under section 63 of the Electricity Act, 2003, the State Commission is conferred with powers to adopt tariff, if the tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government. Whileso, section 86 (1) (b) of the said Act, *inter alia* provides that the State Commission shall regulate electricity purchase and procurement process of Distribution Licensee including the price at which electricity shall be procured.

4.15. We have carefully considered the above submissions made by the petitioner in paras 4.2 to 4.13 and the Commission approves the present proposal of procurement of 500 MW Solar Power through Solar Energy Corporation of India (SECI) for 25 years at the rate of Rs.2.711 per unit + Rs.0.07 per unit as Trading Margin totalling Rs.2.781 per unit to meet TANGEDCO's solar RPO requirement.

With these orders, the petition is finally disposed of.

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

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

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

/True Copy /

Secretary  
Tamil Nadu Electricity  
Regulatory Commission