

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.4 of 2017

Tamil Nadu Generation and Distribution Corporation Ltd.
(Represented by the Chairman Cum Managing Director)
144, Anna Salai
Chennai – 600 002.

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

Vs.

NIL

...Respondent

Dates of hearing : 24.02.2017, 25.04.2017, 02.06.2017
and 13.06.2017

Date of Order : 31.07.2017

The M.P.No.4 of 2017 came up for final hearing on 13.06.2017. 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.4 of 2017:-

The prayer of the Petitioner in the above M.P.No.4 of 2017 is to-

- (i) extend the Medium Term PPA with M/s. NETS for a period of two years from 01.02.2017 to 31.01.2019 with the same terms and conditions of PPA with revised tariff;
- (ii) suitably amend the clauses of PPA in line with the revised tariff;
- (iii) pass such further or other orders as may be deemed fit and render justice.

2. Facts of the Case:-

2.1. GOI, MOP had issued Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensee on 19.01.2005 and updated as on 21.07.2010.

2.2. The Government of India / Ministry of Power has issued the standard bidding documents (SBD) case 1-2009 (RFP/PPA) on 27.03.2009 and updated as on 21.07.2010.

2.3. As per the MoP guidelines the period specified for long-term procurement of electricity is 7 years and above and Medium term procurement for a period upto 7 years but exceeding 1 year.

2.4. In view of shortage of power and to meet the demand for the present and for the near future, the petitioner herein has decided to extend the Power Purchase Agreement executed between TANGEDCO and M/s. National Energy Trading and Services Ltd (NETS) on 19.01.2012 for procurement of 100 MW RTC power through Medium Term power purchase under Case-1 bidding for further period of two years.

3. Contentions of the Petitioner:-

3.1. R&C measures in Tamil Nadu has been lifted with effect from 05.06.2015 and directions of the State Government issued under section 11 of Electricity Act, 2003 have been revoked with effect from 01.06.2016.

3.2. The peak demand reached during April 2016 is 15343 MW. At present, demand during day ranges from about 12500 MW to 13500 MW. The demand increases every year.

3.3. Board of TANGEDCO has resolved for decommissioning of ETPS permanently with effect from 31.03.2017.

3.4. Moreover, the ETPS Expansion project, which is scheduled to be commissioned during 2018 is likely to be delayed as Main Plant packages are yet to be received at site and work front is not fully ready for erection of Main Plant and Balance of Plant. Other TANGEDCO owned projects are expected to be commissioned only after 2019.

3.5. Besides, two other PPAs for a quantum of 400 MW entered into under Medium Term Power Purchase Agreement are due for expiry in August 2017. Hence, necessity arises to bridge the anticipated deficit till TANGEDCO's own projects come into fruition.

3.6. The details of Power Purchase Agreements so far executed by TANGEDCO under Case-1 Bidding are as follows:

I. Medium Term

Tender No.01/PPMT/2011 (Phase I):

TANGEDCO executed PPA with NETS on 19.01.2012 for purchase of 100 MW RTC power sourced from Lanco Anpara Power Ltd, Uttar Pradesh through medium term for a period of five years from 01.02.2012 to 31.01.2017 with Levelised Tariff of Rs.4.8841/Kwh and tariff was adopted by the Commission on 21.06.2013.

Tender No.02/PPMT/2011 (Phase II):

TANGEDCO executed PPA with Jindal Power Ltd and Adani Enterprises Ltd on 29.06.2012 for purchase of 200 MW (each) RTC power sourced from OP Jindal Super Thermal Power Station, Chattisgarh with Levelised Tariff of Rs.4.9165/Kwh and Mundra Power Plant, Gujarat with Levelised Tariff of Rs.4.99/Kwh through medium term for a period of five years from 01.09.2012 to 31.08.2017 respectively and tariff was adopted by the Commission on 29.07.2013.

II. Long Term

Tender No.03/PPLT/2011 (Phase III):

TANGEDCO had executed 11 long term PPAs with 3 Nos. Intra State Generators and 8 Nos. Inter State Generators for procurement of 3330 MW RTC power through long term for a period of fifteen years from 2014 to 2028 with a levelised tariff of Rs.4.910/Kwh and tariff adopted by the Commission on 29-07-2016.

III. Short Term

Tender No.08 of 2016:

TANGEDCO had issued Letter of Award and executed PPA for purchase of 350 MW RTC power from sources located in NEW Region and 672 MW of RTC power for the period from February 2017 and March 2017 and 632 of RTC power for the period from April 2017 and May 2017 from sources in Southern Region under Short term power purchase at a rate of upto Rs.4.00 per kwh and the Commission has approved the above tender process vide its order dated 29.12.2016.

3.7. Clause 2.2.1 of PPA of M/s NETS reads as follows:

"This Agreement shall be valid for a term commencing from the Effective Date (01.02.2012) until the Expiry Date (31.01.2017) (Term of Agreement'), unless terminated earlier pursuant to Article 2.3. Upon the occurrence of the Expiry Date, this Agreement shall subject to Article 2.4, automatically terminate, unless mutually, extended by all the Parties on mutually agreed terms and conditions, at least Ninety (90) days, subject to approval of the Hon'ble TNERC."

3.8. The revised Financial Bid of NETS for the period 01-02-2017 to 31-01-2019 is as below:

Contract Year	Commencement Date of Contract Year	End Date of Contract Year	Quoted Non Escalable Capacity Charges (Rs./Kwh)	Quoted Energy (Rs./Kwh)	Escalable Charges
1	01.02.2017	31.03.2017	1.500	2.000	
2	01.04.2017	31.03.2018	1.500	same as above	
3	01.04.2018	31.01.2019	1.500	same as above	

3.9. The actual Tariff of NETS, if PPA is extended for further period of two years as provided in Article 2, Clause 2.2.1 of PPA dated 19.01.2012 will be calculated for the revised bid keeping 100 as base index for escalable Energy Charges as on 01.02.2017.

3.10. The present tariff offered by M/s.NETS at Rs.3.50/- at injection point and Rs.3.93 at Tamil Nadu periphery is comparable to the present prevailing rate in Southern Region.

3.11. As Medium Term Open Access will be granted only after 5 months from the month of submitting application to PGCIL, M/s.NETS have requested early signing of PPA and to reckon the extension period from the start of power supply under the MTOA.

3.12. The present term of the PPA expires on 31.01.2017. M/s.NETS have sought extension of term of PPA vide their earlier letters dated 21-10-2016, 02-12-2016 and 05-01-2017, offering a tariff of Rs.4.52, Rs.3.99 and Rs.3.94/Kwh at Injection Point. Now, M/s NETS vide their letter dated 30.01.2017 (Received on 31.01.2017) offered a revised Tariff of Rs.3.50/kwh at injection point with Non-Escalable capacity charges—Rs.1.50 /kwh and Escalable energy charges—Rs.2.00 /kwh for the proposed extended period.

3.13. Under the above scenario, TANGEDCO examined the proposal of M/s NETS seeking extension for a further period of two years (i.e. from 01-02-2017 to 31-01-2019) subject to the approval of the Commission as per Article 2, Clause 2.2.1 of PPA.

4. Hearing held on 24.02.2017:-

In the hearing held on 24.02.2017, the Commission has directed TANGEDCO to file additional affidavit as to how 500 MW would be effectively used without backing down by way of realistic demand/supply projection for each month for atleast next twelve months compared with the corresponding periods of last year in terms of energy consumption, availability etc., Accordingly, the Petitioner has filed an affidavit on 18.04.2017 which reveals the following:-

(i) The installed capacity of TANGEDCO from conventional sources during the last three years (including share from CGS) is as below:-

Source	Installed Capacity as on 31 st March of FY		
	2014-15	2015-16	2016-17
Thermal	4060	4660	* 4320
Gas	516	516	516
CGS	3870	5429	** 6037
LTA / MTOA	782	3689	3730
STOA	1275	986	582
IPP	958	853	416
	11461	16133	*** 15601

R&C Removed from 05.06.2015

Order under sec 11 Revoked from 01.06.2016

* ETPS retires on 31.03.2017 and hence not included.

** Includes share from two units of Kudankulam, even though COD is yet to be declared for Unit 2

*** Besides the above, the only capacity addition expected during 2017-18 is 387 MW CGS share from Kudgi STPS

(ii) Providing 24 x 7 power for all is the ambitious plan of GOI and this is one of the most important objectives of its policy for reviving economic growth.

(iii). Gas allocation is much less in view of insufficient availability and hence generation from Gas based power station is in the range of 200-225 MW even though TANGEDCO has an installed capacity of 516 MW.

(iv) Tamil Nadu is getting less than normal rains during both monsoons year after year and both monsoons have failed this year and GOTN has declared all districts as drought hit this year. Hence hydro resource can act as a balancing mechanism only to some extent though the installed capacity is more than 2000 MW.

(v) TANGEDCO has contracted 3330 MW under long term and 500 MW under medium term, the availability from these contracts was in the range of only 70% during previous FY 2016-17.

(vi) Similarly, many of the CGS stations from which share has been allocated to TANGEDCO has served/nearing normative life and hence the availability is less than 5000 MW even though the total share is 6037 MW (including share from Units 1 & 2 of Koodangulam) at present.

(vii). For the purpose of preparation of Load Generation Balance Report, availability is being considered as per the following norms. 100% of Installed Capacity as available during normative life of 25 years, 85% during life between 25 to 30 years and 70% during life between 30-40 years and nil if it is beyond 40 years. With the above norms the availability for 2017-18 will be 11548. Even if normative availability of 85% is considered, the available capacity is (15601×0.85) will be

13,260 MW for 2017-18. Considering the expiry of Medium Term contracts on 31.08.2017 and short term contracts, the availability will come down to 12426 MW.

(viii) The average demand prevailed during the last three years and the peak demand prevailed during 2016-17 is also indicated as below:-

Months/Financial Year	Average Demand in MW			Peak Demand met during 2016-17
	2014-15	2015-16	2016-17	
April	11396	10951	13604	15343
May	11342	11183	12438	15163
June	11676	11437	12052	14643
July	11392	11833	12109	14689
August	10798	11417	12367	14443
September	11189	11555	12142	14571
October	10041	11184	12121	14699
November	9962	9018	11878	14278
December	10026	9670	10735	13799
January	10180	10961	11126	14027
February	10965	12075	11674	14082
March	11546	13008	12541	14217

(ix) During October 2016 and November 2016, TANGEDCO resorted to purchase of power from exchange for a quantum of about 500 MW to 1000 MW due to failure of North East monsoon.

(x) As per guidelines for determination of tariff by Bidding Process for Procurement of Power by Distribution Licensees, the demand forecast shall be based on the latest available (at the time of issue of RFQ) Electric Power Survey published by Central Electricity Authority (Both for Case 1 and Case 2).

(xi) The projection as per 19th EPS arrived at based on the norms approved by CEA ,is as follows:-

(Without considering renewable energy)

Year	Availability at the end of the year in MW	Projected Demand in MW	Surplus/Deficit in MW	Energy Surplus/Deficit in MU
2017-18	15789	15566	(-) 188	(-) 1282
2018-19	16228	16577	(-) 788	(-) 5317

(xii). While preparing report for 19th EPS, capacity addition from NLC's (2x500 MW) New Power Plant and ETPS Expansion were considered for the year 2017-18 and 2018-19. However, all these (1x660 MW) capacity additions are getting delayed and likely to be commenced only by 2019-20 .

(xiii) Hence, extension of Medium Term PPAs' to meet the summer requirement of 2018 and 2019 have been proposed. Further the STOA contracted capacity of 672/632 MW is due to expire by 15th May 2017.

(xiv) Further response for peak hour/Day time procurement through short term is not very encouraging. In the tender floated by TANGEDCO and Telangana for peak power/ non-RTC requirement, the rate quoted is in the range of Rs.4.70 per kwh to Rs.5.80 per kwh for TANGEDCO tender and Rs.5.65 per kwh to Rs.6.18 per kwh for Telangana tender. Subsequently, Telangana floated another tender for RTC requirement, the quote ranges from Rs.5.61 per kwh to Rs.6.50 per kwh.

(xv) The tariff of M/s.NETS for the month of January 2017 was Rs.5.2894/Kwh. Towards extension of PPA, M/s.NETS initially offered tariff of Rs.4.53/Kwh and after three rounds of negotiation M/s.NETS offered revised rate of Rs.3.50/Kwh.

(xvi) The comparison between extending MTOA agreement instead of going for fresh Short Term Tender is indicated, considering the competitive rate of Rs.3.50 (Ex-bus) quoted by M/s.NETS for the extension of PPA term by two years is proposed.

5. Hearing held on 25.04.2017:-

In the hearing held on 25.04.2017, the Commission has directed TANGEDCO to file additional affidavit justifying reasons with the realistic demand estimate, declared power availability and power drawn from CGS for extension of Medium Term power purchase. Accordingly, the Petitioner has filed an affidavit on 02.06.2017 which reveals as follows:-

- (i) TANGEDCO met a peak demand of 15343 MW during 2016-17. The average peak demand for the year 2016-17 was 14496 MW.
- (ii) The average demand met by TANGEDCO during the year 2014-15, 2015-16 and 2016-17 are 10876 MW, 11191 MW and 12065 MW respectively.
- (iii) At present, the installed capacity from conventional sources (i.e. TANGEDCO Thermal and Gas, IPPs, CGS and LTA) is 14119 MW. One generator is not supplying 500 MW power contracted under Long Term Tender and Medium Term PPA for a quantum of 400 MW is due to expire on 31.08.2017.
- (iv) As per MoP guidelines for procurement of power, demand forecast shall be based on the latest available Electric Power Survey report published by CEA.

- (v) As per the demand forecasted in latest EPS Report viz, 19th EPS Report, the deficit projected for the years 2017-18 and 2018-19 are 788 MW and 1451 MW respectively.
- (vi) The State owned project which is in the pipe line and scheduled for commissioning by 2018-19 viz , ETPS expansion is getting delayed and likely to be commissioned beyond 2019 only.
- (vii) To meet the above demand/deficit, as per the projections based on 19th EPS report, the extension of Medium Term PPA by another two years has been requested.
- (viii) The tariff quoted by the bidders @ Rs.3.50 per unit (Ex-bus) is reasonable compared to present market prices.
- (ix) Medium Term Open Access will be granted from the sixth month from the date of submission of application, subject to availability of ATC (Available Transfer Capability). Based on availability of Available Transmission Capability, MTOA will be granted for RTC quantum only and it will not be truncated as in the case of Short Term Open Access. Hence, the uncertainties of STOA are eliminated and power sourced under MTOA will meet the base demand.

6. Hearing held on 02.06.2017:-

In the hearing held on 02.06.2017, the Commission has directed TANGEDCO to file additional affidavit clarifying that the option proposed is economically the most optimum one. Accordingly, the Petitioner filed an affidavit on 13-06-2017 which reads as follows:-

(i) Market forces influences the tariff of power procurement and particularly in short term market. TANGEDCO floated a tender for short term RTC power procurement during November 2016 for the period from February 2017 to 15th May 2017 and the tender discovered tariff was ranging from Rs.2.92 per unit to Rs.4.00 per unit. Subsequently, Karnataka floated a tender for short term RTC power procurement during December 2016 for the supply period from 16.12.2016 to 31.05.2017. The tender discovered tariff was ranging from Rs.3.749 per unit to Rs.4.20 per unit. During March 2017, Telangana floated a short term RTC power procurement for the period of supply from 01.03.2017 to 15.04.2017 and the tariff discovered was ranging from Rs.5.61 per unit to Rs.6.20 per unit.

(ii) The prices discovered in short term market are market driven based on the prevailing demand and supply, which may have surprises depending upon the network congestion / multiple outage scenarios. The options available to TANGEDCO to meet the projected deficit, calculated based on TANGEDCO tender discovered rate and Telangana tender discovered rate in additional affidavit for illustrative purpose. Considering the uncertainty in both availability and the rates to be discovered under short term tender, the power under Medium Term basis (2017-2019) had been proposed to be reliable and cost effective.

7. Findings of the Commission:-

7.1. We have carefully considered the prayer of the petitioner Corporation for extension of medium term PPA with National Energy Trading and Services Limited for a period of two years from 01.2.2017 to 31.01.2019. It is seen that the original PPA was executed between TANGEDCO and NET&S for five years from 01.02.2012

to 31.01.2017 with a levelled tariff of Rs.4.8841/kwh and the present procurement for a period of further two years is sought to be made at the rate of Rs.3.50/kwh at injection point with non-escalable capacity charges – Rs.1.50/kwh and escalable energy charges – Rs.2.00/kwh for the extended period. It is to be noted that the agreement which is sought to be extended was originally executed as per the Guidelines for Determination of Tariff by Bidding Process for procurement of power by the Distribution Licensee issued by the Ministry of Power . The petitioner has sought to justify the extension of PPA on various grounds which inter alia includes the reaching of peak demand during April 2016 upto 15343 MW and the consistent increase in the demand every year and the expectancy of commissioning of TNEB's own plant only after 2009.

7.2. It is seen that the Clause 2.2.1 of PPA executed between TANGEDCO and National Energy Trading and Services Limited reads as follows;

“This Agreement shall be valid for a term commencing from the Effective Date (01.02.2012) until the Expiry Date (31.01.2017) (“Term of Agreement”), unless terminated earlier pursuant to Article 2.3. Upon the occurrence of the Expiry Date, this Agreement shall, subject to Article 2.4, automatically terminate, unless mutually, extended by all the Parties on mutually agreed terms and conditions, at least Ninety (90) days, subject to approval of the Hon’ble TNERC”.

7.3. It may be seen from the above that the PPA provides for extension if there is mutual consent among the parties. The maximum period upto which a medium term procurement for power can be executed as per Ministry of Power guidelines is 7 years which means the extension of 2 years over and above the period of 5 years is well within the provisions of the Ministry of Power Guidelines. Therefore, we are satisfied on the question of validity of PPA. Now the questions which arise for

consideration are whether the rates agreed upon between the parties is reasonable and whether the need for continuing procurement of this power exists.

7.4. TANGEDCO has submitted the present tariff offered by M/s.NETS at Rs.3.50/- at injection point and is lesser than the present prevailing rate of Rs.3.93 in Southern Region. TANGEDCO has further submitted that the demand reached during April 2016 was 15343 MW and at present the demand during day ranges from about 12500 MW to 13500 MW and the demand increases every year. The decommissioning of ETPS permanently with effect from 31.03.2017 and delay in ETPS expansion project which are scheduled to be commenced during 2018 and likelihood of its commissioning only in 2019 is also one of the reasons cited for approval of the present proposal for procurement. The TANGEDCO has further submitted that PPA executed for purchase of 350 MW RTC power from sources located in NEW Region and 672 MW of RTC power for the period from February 2017 to March 2017 and 632 of RTC power for the period from April 2017 to May 2017 from sources in Southern Region under short term power purchase at a rate of upto Rs.4.00 per kwh have been approved by TNERC in its order dated 29.11.2016.

7.5. On a careful consideration of the above submissions of TANGEDCO, it is observed that the present rate of Rs.3.50 / kwh is lesser than the rate at which power was supplied under the earlier PPA executed for 5 years and the rate offered in the present proposal is also lesser than the rate of Rs.3.93 prevailing in the Southern Region and Rs.4.00 approved in the order dated 29.11.2016. It would be also relevant to consider the following submissions of TANGEDCO before according approval for the present proposal.

- a) The Gas allocation is much less in view of insufficient availability and hence generation from Gas based power station is in the range of 200–225 MW even though TANGEDCO has an installed capacity of 516 MW.
- b) Tamil Nadu is getting less than normal rains during both monsoons year after year and both monsoons have failed this year and GoTN has declared all districts as drought hit this year. Hence, hydro resource can act as a balancing mechanism only to some extent though the installed capacity is more than 2000 MW.
- c) Even though TANGEDCO has contracted 3330 MW under long term and 500 MW under medium term, the availability from these contracts was in the range of only 70% during previous Financial Year 2016-2017.
- d) Many of the CGS Stations from which share has been allocated to TANGEDCO has served / nearing normative life and hence the availability is less than 5000 MW even though the total share is 6037 MW (including share from Unit – 1 & 2 of Koodangulam) at present.
- e) For the purpose of preparation of Load Generation Balance Report, availability is being considered as per the following norms. 100% of Installed capacity as available during normative life of 25 years, 85% during life between 25 to 30 years and 70% during life between 30-40 years and nil if it is beyond 40 years. With the above norms the availability for 2017-2018 will be 11548 MW. Even if normative availability of 85% is considered, the available capacity is $(15601 * 0.85)$ will be 13,260 MW for 2017-2018. Considering the expiry of Medium Term contracts on

31.08.2017 and short term contracts, the availability will come down to 12426 MW.

7.6. It is also seen that the initial offer of M/s.NETS was Rs.4.53/kwh and after three rounds of negotiation, the reduced rate of Rs.3.50/- kwh has been agreed upon. The letter dated 30.01.2017 of M/s.NETS also confirms the said position. In view of the same, Commission is of the considered opinion that the rates agreed upon by the parties for the extended period is reasonable. Considering the steady increase in demand, decommissioning of ETPS, delay in commissioning of ETPS expansion project and other factors pleaded by TANGEDCO in regard to Gas allocation, failure of monsoon, availability of power from CGS Stations, expiry of medium and short term contracts and the consistent need to keep base load power which acts as the immediate resource for catering to the power requirements of the State as set out by TANGEDCO, the Commission hereby accords approval for purchase of power by TANGEDCO from M/s.NETS from 01.02.2017 to 31.01.2019 at a revised rate of Rs.3.50/- kwh at injection point comprising of non-escalable of capacity charges – Rs.1.50/- kwh and escalable energy charges Rs.2.00/- kwh totally amounting to Rs.3.50/kwh. The other conditions of the PPA shall remain unaltered.

8. 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