

**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

**P.P.A.P.No.6 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

**Date of hearing:** 19-09-2017

**Date of Order:** 13-11-2017

The P.P.A.P.No.6 of 2017 came up for hearing on 19-09-2017. 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 P.P.A.P.No.6 of 2017:-**

The prayer of the Petitioner in the above P.P.A.P.No.6 of 2017 is,-

- (a) to approve for adopting the tariff of Rs.3.42 per unit offered by the following 2 bidders, arrived through reverse bidding process (e-tender) in respect of their proposed Wind Power Plants of combined capacity of 450 MW out of 500 MW

procurement floated in Wind Tender Specification CE/NCES/OT.No.2/2017-18.

Sl. No.	Name of the bidder	Capacity in MW	Negotiated rate
1	M/s.Regan Powertech Pvt. Ltd.	200	3.42 (L1)
2	M/s.Leap Green Energy Pvt. Ltd.	250	3.42 (L2)
	<b>Total</b>	<b>450</b>	

- (b) to pass such further or other orders as this Commission may deem fit and proper in the facts and circumstances of the case; and
- (c) to approve the draft Power Purchase Agreement to be executed with the above successful bidders for procurement of wind power for 25 years of agreement period.

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

The petition is being filed seeking approval for adoption of tariff of Rs.3.42 per unit offered by 2 bidders of Wind e-tender arrived through reverse bidding process e-tender in respect of their proposed Wind Power Plants of combined capacity of 450 MW, against Wind Tender Specification CE/NCES/OT.No.2/2017-18 for the agreement period of 25 years.

## **3. Contentions of the Petitioner in P.P.A.No.6 of 2017:-**

3.1. This petition is being filed seeking approval for adoption of tariff of Rs.3.42 per unit offered by the 2 successful bidders of wind e-tender obtained through reverse bidding process in respect of the proposed wind power plants of combined capacity of 450 MW, against 500 MW in Wind Tender Specification CE/NCES/OT.No.2/2017-18 for the agreement period of 25 years.

3.2. Due to continuous encouragement and support, the installed capacity of wind mills in Tamil Nadu stands at number one since 1986 to till date with an installed capacity as on 31-03-2017 as 7849.255 MW with 12008 Nos. WEG's which constitutes 22.53% of total installed capacity of India. TANGEDCO further requires approximately 1611 MW of wind power for the year 2017-18 to meet the RPO target of 9% fixed by the Commission for the year 2017-18.

3.3. As per the provisions under section 63 of the Electricity Act, 2003, the State Electricity Commission is conferred with power to adopt tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government. While so, 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.

3.4. In the National Tariff Policy issued by MoP Resolution dated 28-01-2016, it is stated:

*“States shall endeavor to procure power from Renewable Energy Sources through competitive bidding to keep the tariff low, except from the waste to energy plants. Procurement of power by Distribution Licensee from Renewable Energy Sources from Projects above the notified capacity, shall be done through competitive bidding process, from the date to be notified by the Central Government.”*

3.5. Such final guidelines is not available as of now. However, draft guidelines for procurement of wind power through bidding by the MNRE is available and yet to be finalized by the Government of India. Hence, approval of this Commission is sought based on draft guidelines issued by the MNRE, GoI issued in the Notification

No.F.No.238/1/2017-18. By virtue of such approval / permission by the Commission, the TANGEDCO will be achieving the objects of sourcing power from WEGs meeting RPO and also at a competitive rate which will be in public interest.

3.6. A petition in M.P.No.10 of 2017 was filed before the Commission seeking permission for procurement upto 500 MW of wind power by TANGEDCO from the private developers through reverse bidding process with a bench mark rate of Rs.3.46, as upper limit. The petition was filed before the Commission along with the Request for Selection (RFS) document. The RFS document has been prepared in line with the draft guidelines issued by the MNRE, GoI issued in Notification No.F.No.238/1/2017-18.

3.7. The Commission has directed TANGEDCO to proceed with the tender process vide daily order dated 02.06.2017 and detailed order was issued on 10-07-2017.

3.8. Based on the above direction of the Commission dated 02-06-2017, tender has been floated on 19.06.2017 for the procurement of 500 MW of wind power from the developers establishing wind power plants in Tamil Nadu under reverse bidding process, considering the bench mark tariff of Rs.3.46 per unit, as upper limit, after publishing in 4 dailies (1) Indian Express (2) The Deccan Chronicle (3) Dinamani (4) Dinathanthi on 18-06-2017.

3.9. The Commission in its order dated 10-07-2017 has 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 the same in the website. Clarifications / revisions to the bid document and Power Purchase Agreement on account of pre-bid meeting may be uploaded in the website of the Petitioner and adequate time granted for submission of bids.
- (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.

The Commission has further directed that prior approval for procurement of wind 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 other bidders and a copy of power purchase agreement to be signed with the developers.

3.10 TANGEDCO has conducted pre-bid meeting with the bidders at TANGEDCO Head Quarters on 05.07.2017. Most of the bidders have requested to issue certain amendments in tender specification with regard to-

(a) **Land and Other Documents:**

As per the tender specification, TANGEDCO shall execute PPA with the bidder on furnishing the following documents:-

- (a) The WEG should register the application corresponding to the capacity of the project with CE/NCES as per the existing procedure along with registered sale deed or lease deed for land.
- (b) Copy of the evacuation approval, if any
- (c) Copy of MOA & AOA / Partnership Deed
- (d) Certificate of incorporation

- (e) Project layout
- (f) Village map and topo sketch
- (g) Detailed Project Report (DPR)

The WPG shall furnish the following documents to TANGEDCO before commissioning of the project and only on receipt of the following documents, TANGEDCO will issue Grid tie up approval to WPG:-

- (a) No Objection Certificate (NoC)/Environmental clearance (if applicable) for the power project.
- (b) Forest Clearance (if applicable) for the land for the power project.
- (c) Approval from the concerned authority (if applicable) for water required for the power project.

**b. Part Commissioning:-**

As per the tender specification clause 26(a) "Part commissioning shall be accepted for the total 50% bidded capacity. Part Commissioning will not be applicable to projects having capacity of 10 MW or less".

3.11. Based on the representation of various bidders and based on the draft guidelines issued by MNRE vide Notification No.F.No.238/1/2017-18 and in order to get more competitive offers, the following amendments in tender specification were made and intimated to the bidders while giving reply to the pre bid queries. The tender specification has been amended as follows:-

**a. Land and Other Documents:**

The PPA shall be executed on finalization of the location and evacuation feasibility. The registered sale / lease deed for the land is allowed to be submitted within 3 months from the date of signing of PPA.

- 1. Registered sale deed / lease deed for the proposed land.
- 2. Copy of evacuation approval
- 3. Project layout
- 4. Village map and topo sketch

5. Detailed Project Report (DPR)

**b. Part Commissioning:**

This was amended as part commissioning is allowed. “Machinewise commissioning accepted”. But COD will be from the date of commissioning of the 1<sup>st</sup> machine.

3.12. For scrutiny of documents furnished by the bidders, a bid evaluation committee was formed with the following officers:-

- (a) Thiru M.Balasubramanian, Chief Engineer / NCES
- (b) Thiru K.Manoharan, Superintending Engineer/Solar Energy/NCES
- (c) Thiru D.Jayaraj, AAO/Exam. Cell

3.13. As per the tender schedule, techno commercial bids were opened on 18.07.2017. 4 bidders participated in the tender for establishment of wind power plants of combined capacity of 1050.8 MW. The details are furnished below:-

Sl. No.	Name of the bidder	Capacity in MW
1	M/s.Regan Powertech Pvt. Ltd.	200
2	M/s.Leap Green Energy Pvt. Ltd.	250
3	M/s.NLC India Ltd.	500
4	M/s.Evergreen Renewables Pvt. Ltd.	100.8
	<b>Total</b>	<b>1050.8</b>

Out of 4 bidders, the bids of the following bidders was rejected by evaluation Committee, as they have not satisfied the Networth Criteria in BQR conditions and also uploaded the price bid along with techno commercial bid.

1. M/s. Evergreen Renewables Pvt. Ltd. -100.8 MW

3.14. The Board of TANGEDCO on 24-08-2017 approved the proposal to open the price bid of 3 bidders for a combined capacity of 950 MW, and the price bid was opened on 28-08-2017 after intimation to all the bidders.

3.15. The price quoted by the 3 eligible bidders against the upper limit of Rs.3.46 per unit is furnished below:-

Sl. No.	Name of the Company	Capacity	Location	Rate offered per unit	Ranking
1	M/s.Regan Powertech Pvt. Ltd.	200	Onamkulam Village, Ottapidaram Taluk, Tuticorin District	Rs.3.42	L1
2	M/s.Leap Green Energy Pvt. Ltd.	250	1) Rasipalayam 400-230 KV SS – Uthiyur Village, Kangeyam Taluk, Tirupur District  2) Rasipalayam 400-230 KV SS – Moolanur Village, Kangeyam Taluk, Tirupur District.  3) Kanarpatti 400-230 KV SS – Sayamalai Village, Sankarankovil Taluk, Tirunelveli District	Rs.3.43	L2
3	M/s.NLC India Ltd.	500	1) Sudamani & Munalur of Dharapuram in Tirupur District  2)Alangulam of Tirunelveli District  3)Kayatharu of Tuticorin District	Rs.3.45	L3



From the above, it is seen that M/s.Regen Powertech Pvt. Ltd. has quoted the lowest rate of Rs.3.42 against the upper limit of Rs.3.46 and is the L1 bidder.

3.16. The L1 bidder M/s.Regen Powertech Pvt. Ltd. (offered 200 MW) was called for negotiation on 29-08-2017 conducted by the high level negotiation committee members comprising of Director / Generation / TANGEDCO & Chief Financial Controller / General / TANGEDCO. During the negotiation, the L1 bidder was requested to reduce the quoted rate to the maximum extent possible but the firm has expressed their inability to reduce the quoted price further.

3.17. The Bidders (L2 & L3) were called for price matching with L1 rate i.e. Rs.3.42 per unit, conducted by the high level negotiation committee members comprising of Director / Generation / TANGEDCO & Chief Financial Controller / General / TANGEDCO on 29-08-2017. The L2 bidder M/s.Leap Green Energy Pvt. Ltd., have accepted to match their offered rate to that of L1 rate i.e. Rs.3.42 per unit for the entire capacity of 250 MW quoted by them.

3.18. The L3 bidder M/s.NLC India Ltd., has accepted to match the L1 bidding of Rs.3.42 per unit but requested to offer the entire bid quantity of 500 MW and not willing to take the balance quantity of 50 MW only. Hence Power Purchase Approval Petition (PPAP) is filed adopting the rate of Rs.3.42 per unit for 450 MW only out of 500 MW approved by the Commission in M.P.No.10 of 2017.

The details of the quantity after price negotiation / price matching are furnished below:-

Sl. No.	Name of the bidder	Capacity in MW	Negotiated rate
1	M/s.Regan Powertech Pvt. Ltd.	200	3.42 (L1)
2	M/s.Leap Green Energy Pvt. Ltd.	250	3.42 (L2)
	<b>Total</b>	<b>450</b>	

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

4.1. The prayer of the petitioner in the present petition is to adopt the tariff of Rs.3.42 per unit offered by two bidders arrived through reverse bidding process (e-tender) in respect of the proposed power plants of combined capacity of 450 MW out of 500 MW procurement floated in Wind tender specification CE/NCES/OT.No.2/2017-18 and to further approve the draft power purchase agreement to be executed with the successful bidders for procurement of wind energy for a period of 25 years.

4.2. We have gone through the prayer of the petitioner and also the averments made in the power purchase approval petition. The Commission approved the procurement of Wind Power to the extent of 500 MW in M.P.No.10 of 2017 at a rate of Rs.3.46 per unit as upper limit through reverse bidding based on the tariff arrived at by Solar Energy Corporation of India through tender process. This adoption petition is sequel to the approval granted by the Commission in M.P.No.10 of 2017 on 10.07.2017. The TANGEDCO has sought approval of the present procurement on the strength of various factors, which *inter alia*, includes the Renewable Purchase Obligation imposed on the distribution licensee, the ambitious target of 175 GW of Renewable Power by 2020 and 60 GW of Wind Power in the said target of renewable mix. The TANGEDCO has also brought out the fact that a quantum of 1611 MW by way of sale to distribution licensee is required to meet the RPO of 9%

for the year 2017-2018 fixed by the Commission to avoid purchase of Renewable Energy Certificate in the open market.

4.3. The present petition for adoption has been filed for a quantum of 450 MW from two bidders namely, M/s.Regen Powertech Pvt Ltd and M/s.Leap Green Energy Pvt Ltd at a rate of Rs.3.42 per unit. The reason given by TANGEDCO for leaving out 50 MW of procurement from the 500 MW which was intended to be procured initially is that NLC India Ltd is not willing to undertake supply of a meagre quantum of 50 MW after the offer of Rs.3.42 per unit was confirmed by L1 bidder M/s.Regen Powertech Pvt. Ltd and L2 bidder M/s.Leap Green Energy Pvt. Ltd to an extent of 450 MW. It is seen from the adoption petition that the lowest rate of Rs.3.42 as against the upper limit of Rs.3.46 was first offered by M/s.Regen Powertech and it was later called for negotiation for further reduction. As the company expressed its inability to reduce the quoted price further, the L2 and L3 bidders namely, M/s.Leap Green Energy and NLC were called for negotiation to match the L1 rate. It is further seen that while M/s.Leap Green Energy Pvt Ltd agreed to match the L1 rate and agreed to supply 250 MW, the NLC India even while agreeing to the L1 rate, wanted to supply the entire quantum of 500 MW and was not willing to supply the reduced quantum of 50 MW. In such circumstances, the present petition has been filed seeking adoption of rate of Rs.3.42 offered by M/s.Regen Powertech and Leap Energy to a total quantum of 450 MW out of 500 MW floated in the Tender specification.

4.4. It is also seen that a bid evaluation committee comprising of Tvl. M.Balasubramanian, Chief Engineer(NCES), K.Manoharan, Superintending Engineer(Solar Energy/NCES) and D.Jayaraj, AAO(Exam.Cell) was formed in the

tender process and four bidders participated in the tender in which offer of one tenderer by name Evergreen Renewables Private Limited was outrightly rejected as it failed to satisfy the networth criteria in BQR conditions and also quoted price in their techno commercial bid.

4.5. On going through the petition filed for adoption, we see that there is justification for the present procurement in view of the further requirement of 1611 MW of renewable purchase obligation to meet the target of 9% for the year 2017-2018 and the overall target of 175 GW of RE power envisaged by the Government of India by the year 2020. Above all, the rate discovered in the competitive bidding is lesser than the rate discovered in the All India Tender for procurement of wind power floated by Solar Energy Corporation of India which is Rs.3.46 per unit. In view of the same, the rate of Rs.3.42 per unit for the procurement of 200 MW wind power from M/s.Regan Powertech Pvt Ltd and 250 MW of wind power from M/s.Leap Green Energy Pvt Ltd by TANGEDCO is hereby adopted, subject to the condition that the energy purchase agreement for procurement of power from these generators shall be executed as per the format devised by the Commission and the conditions therein shall strictly apply.

**5. 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

**ENERGY PURCHASE AGREEMENT FOR WIND POWER GENERATOR  
COVERED UNDER TENDER SPECIFICATION IN  
CE/NCES/OT NO.2/2017-18**

This agreement made at Chennai on this \_\_\_\_\_ day of \_\_\_\_\_ Two thousand and \_\_\_\_\_ between **M/s.**\_\_\_\_\_

\_\_\_\_\_ hereinafter called the Wind Power Generator or WPG (which expression shall wherever the context so permits means and include its successors in interest, executors, administrators and permitted assigns) represented by Thiru..... and the Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), a Corporation incorporated under the Companies Act, 1956 and wholly owned by the Government of Tamil Nadu, having its registered office at No.144, Anna Salai, Chennai-600 002, hereinafter called the Distribution Licensee (which expression shall wherever the context so permits means and include its successors in interest, and permitted assigns) represented by Thru....., Superintending Engineer/ Solar/NCES/TANGEDCO.

Whereas the distribution licensee, pursuant to the approval of the Hon'ble TNERC in M.P. No..... of 2016, dt:..... has invited bids to establish, maintain and operate wind power plant of 25 MW with atleast 5MW project at one site for a single bidder or company or group of companies in the State of Tamil Nadu at the rate to be finalized through reverse bidding, considering the fixed tariff of Rs.3.46 per unit as upper limit, vide Tender specification in CE/NCES/O.T No.2/2017-18.

Whereas the WPG has submitted its bid to sell wind power generated from its wind power plant(s) as detailed below, having a total capacity of ..... MW

Sl. No.	SF .No. and Address	Capacity	Plant No.

Whereas the distribution licensee has selected the WPG has a successful bidder, agreed to purchase the wind power at a rate finalized through reverse bidding process and issued Letter of Intent vide LOI.ref No.....dt:....., Note for Record letter reference

Lr.No..... on the terms and conditions stipulated in Tender specification in CE/NCES/OT No2/2017-18 and also herein under agreed to.

**NOW THESE PRESENTS WITNESS AND THE PARTIES HEREBY AGREE AS FOLLOWS:**

**1. Definitions**

In this agreement-

- (a) "Billing Period" means the time period between the date of meter reading in a particular month and the corresponding reading in the immediately succeeding month and month shall mean a month reckoned in the British Calendar.
- (b) "Commission" means the Tamil Nadu Electricity Regulatory Commission;
- (c) "Date of Commercial operation" or "COD" means COD as defined in the regulation 2(m) of the TNERC (Terms and Conditions for the Determination of Tariff) Regulations 2005.
- (d) "Dispute" means any dispute or difference of any kind between the WPG and the Distribution licensee in connection with or arising out of this Agreement including but not limited to any issue on the interpretation and scope of the terms of this Agreement.
- (e) "Effective Date" means the date of execution of agreement between the distribution licensee and the Wind power developer and the date on which the agreement shall come into effect.
- (f) "Expiry Date" means the date occurring after 25 years from the COD.
- (g) "Force Majeure" or "Force Majeure Event" shall have the meaning prescribed thereto in Article 12 of this agreement.
- (h) "Installed Capacity" or "IC " means the AC output in MW of all the units of the Wind power generators or the total capacity of the Wind generating station (reckoned at the generator terminals) as declared by the generator and agreed by the distribution licensee.
- (i) "Interface line" means the interface line as defined in the regulation 21(f2) of the power procurement from new and renewable sources of energy regulations 2008, issued by the Commission.
- (j) "Inter connection point" means the interface point as defined in the regulation 21(f1a) of the power procurement from new and renewable sources of energy regulations 2008, issued by the Commission.
- (k) "STU" means the state transmission utility.

**2. Interfacing and Evacuation Facilities:**

- (a) Evacuation facilities from the point of generation to the interconnection point including the required metering, protection arrangement, and related other equipments and the entire interface line shall be provided by the WPG at their/his cost as per the Commission's Intra State Open access Regulations, the Central Electricity Authority (Technical

Standards for connectivity to the Grid) Regulations and the Tamil Nadu Electricity Grid Code, in force and as amended from time to time.

- (b) The Wind Power Generator (WPG) and the Distribution Licensee/STU shall comply with the provisions contained in Commission's Intra State Open Access Regulations 2014 and Central Electricity Authority (CEA) (Technical Standards for connectivity to the Grid) Regulations, 2007 for grid connectivity which includes the following namely;
  - (i) Connection Agreement
  - (ii) Site Responsibility Schedule;
  - (iii) Access at Connection Site;
  - (iv) Site Common Drawings;
  - (v) Safety;
  - (vi) Protection System and Co-ordination;
  - (vii) Inspection, Test, Calibration and Maintenance prior to Connection.
- (c) The WPG shall comply with the safety measures contained in Central Electricity Authority Regulations 2010 and as amended from time to time.
- (d) Both parties shall comply with the relevant provisions contained in the Indian Electricity Grid Code, Tamil Nadu Electricity Grid Code, the Electricity Act, 2003, other Codes and Regulations issued by the Tamil Nadu Electricity Regulatory Commission/ Central Electricity Authority (CEA) as amended from time to time;

### **3. Operation and Maintenance:**

- (a) The Wind power generated shall be evacuated to the maximum extent subject to Grid stability and shall not be subjected to merit order dispatch principles.
- (b) The WPG should provide adequate filtering mechanism to limit the harmonics within the stipulated norms as specified by the Commission and by the Central Electricity Authority from time to time. If the WPG injects the harmonics beyond such stipulated limit, a compensation of 15% of the applicable generation tariff rate shall be deductible by the Distribution Licensee from every monthly bill in whose area the plant is located till such time it is reduced within the stipulated limit.
- (c) The WPG should minimize drawal of reactive power from the Distribution Licensee/STU's grid at an interchange point when the voltage at that point is below 97% of rated voltage and shall not inject reactive power when the voltage is above 103% of rated voltage subject to payment of required charges as per the Intra State Open Access Regulations and the order on open access charges in force.
- (d) The WPG shall provide suitable automatic safety devices so that the Generator shall automatically be isolated when the grid supply fails.

- (e) The WPG shall maintain the Generator and the equipments including the transformer, interface switch gear of Distribution/Transmission line and protection equipments and other allied equipments at their/his cost to the satisfaction of the authorized officer of the Distribution Licensee / STU.
- (f) The changing of the rupturing capacity of the interface switch gear of transmission line/distribution line and settings of the relays, if any, shall be subject to the approval of the Authorized Officer of the Distribution Licensee / STU.
- (g) The interfacing lines shall be maintained by the WPG at their/his cost.
- (h) There shall be no fluctuations or disturbances to the grid or other consumers supplied by the grid due to paralleling of the Wind Power Generators. The WPG shall provide at their/his cost adequate protection as required by the Distribution Licensee/STU to facilitate safe parallel operation of the Generators with grid and to prevent disturbances to the grid.
- (i) The WPG agrees that the Distribution Licensee/STU shall not be responsible for any damage to their/his Generating units resulting from parallel operation with the grid and that the Distribution Licensee/STU shall not be liable to pay any compensation whatsoever for any such damage.
- (j) The generating unit(s) shall be maintained effectively and operated by competent and qualified personnel.
- (k) In case of unsymmetrical fault on High Voltage Bus, the WPG shall share the fault current according to impedance of the circuit. To meet such contingency and for safe operation of the Generating units of the WPG, the WPG shall provide the following schemes of protection namely;
  - (i) Separate overload relays on each phase and earth fault relays shall be installed by the WPG. Under no circumstances these relays shall be by-passed.
  - (ii) With suitable current transformer and relay connections, the load sharing by the WPG and Distribution Licensee shall be limited to their rated capacity in the case of connectivity established with the distribution system. In the case of connectivity established with the transmission system, the load sharing by the WPG and STU shall be limited to their rated capacity by using the suitable current transformer and relay connections.
  - (iii) Adequate indication and control metering for proper paralleling of the generators on the High Voltage bus shall be made available by the WPG.
  - (iv) Protection co-ordination shall be done by the Distribution Licensee / STU in consultation with Regional Power committee and relays and the protection system shall be maintained by WPG as per site responsibility schedule.
  - (l) Grid availability shall be subject to the restriction and control as per the orders of the State Load Dispatch Centre (SLDC)



consistent with the provisions of the Electricity Act and regulations made thereon.

- (M) The Wind Energy Generator agrees that the starting current of the Generators shall not exceed the full load current of the machine and to provide the necessary current limiting devices like thyristor during starting.

#### **4. Metering Arrangements:**

- (a) The metering arrangements with facilities to record export and import of energy shall be provided in accordance with the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, Commission's Grid Connectivity and Intra State Open Access Regulations 2014, Tamil Nadu Electricity Distribution Code, 2004 and the Tamil Nadu Grid Code and in consultation with Distribution Licensee / STU. The periodicity of testing, checking, calibration, etc., shall be governed by the Regulations issued by the Central Electricity Authority / Commission's in this regard. Meter shall be installed and connected at the point of interconnection between electrical system of the generating company and Transmission/ Distribution system at the cost of WPG.
- (b) Main and Check Meters shall have facility to communicate its reading to State Load Dispatch Centre on real time basis or otherwise as may be specified by the Commission. Meter reading shall be taken as per the procedure devised by the Distribution Licensee / STU.
- (c) The term 'Meter' shall mean a 'Meter' with 0.2S class accuracy ABT-DLMS Compatibility duly tested at NABL accredited Lab and digital communication facilities to be connected to the SLDC/Control centre.
- (d) The State Transmission Utility / Distribution Licensee may provide Check Meters of the same specification as Main Meters;
- (e) The WPG can have a standby meter of the same specification tested and sealed by the Distribution Licensee/STU at the cost of WPG.
- (f) The Main and Check Meters shall be test checked for accuracy as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006. The meters shall be tested using NABL accredited mobile laboratory or at any NABL accredited laboratory in the presence of parties involved or their authorized representatives at the cost of WPG. Both parties shall seal Main and Check meters. Defective meter shall be replaced immediately.
- (g) Reading of Main and Check meters shall be taken periodically at appointed day and hour by authorized officer of Distribution Licensee / STU and in the presence of generator or his/their authorized representative.
- (h) Check meter readings shall be considered when Main Meter is found to be defective or stopped functioning, provided that, if difference between the readings of main and check meter vis-à-vis main meter reading exceeds twice the percentage of error applicable to relevant class, both meters shall be tested and the one found defective shall be

immediately replaced and reading of other will be considered. Both the meters shall be tested at the cost of WPG.

- (i) If during the periodical test or calibration, both the main meter and the check meter are found to have errors beyond permissible limits, the bill shall be revised for the previous 3 (Three) months or for the exact period, if known and agreed upon by both the parties, by applying correction as determined by the meter testing wing of the Distribution Licensee/STU to the consumption registered by the meter with lesser error. The periodical testing of meters shall be done as per the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006.
- (j) The WPG shall check the healthiness of meters (due to blowing of the Potential Transformer fuses or due to any other causes) by superficially checking indicator lamps or by taking readings as frequently as possible. If both the main meter and the check meter fail to record energy either due to the blowing of the Potential Transformer fuses or due to any other causes, the energy imported / exported may be arrived at based on the standby meter, if available, or as agreed mutually between the parties.

## **5. Tariff and Other Charges:**

- (a) Energy Charges:  
The Wind Power Tariff for the Wind Power Generated during the agreement period shall be the rate mutually accepted by both parties at the time of finalizing tender.
- (b) Reactive Power Charges:  
The reactive power charges shall be as specified in the order on Open Access and as amended from time to time by the Commission.
- (c) Start up Power Charges:  
The drawal of energy by the WPG from the distribution licensee shall be adjusted against the exported energy for every billing period. In case, drawal of power is in excess over the exported power in a billing month, such excess drawal shall be billed at appropriate tariff, as per Commission's Tariff Order in force.
- (d) Harmonics Compensation charges:  
If the WEGs inject the Harmonics beyond the stipulated limit, then they should pay compensation @ 15% of applicable generation tariff rate on every month till such time the generator reduces the harmonics within the stipulated limit.

## **6. Capacity Utilisation Factor (CUF) :**

The Capacity Utilisation Factor (CUF) shall be 20% to 27.15%(as specified by the TNERC in Wind Tariff Order No. 3 of 2016-17 dt:31.3.2016), calculated on yearly basis. In case the availability is more than the maximum

CUF specified i.e. 27.15%, the TANGEDCO will purchase the excess generation, at 75% of the PPA tariff. In case the availability is less than the minimum CUF specified i.e. 20%, the WPG shall pay TANGEDCO for the actual shortfall in terms of units at the prevailing forbearance price fixed by the CERC, since the TANGEDCO is an obligated entity to utilize Wind power as per Hon'ble TNERC's RPO Regulation.

**7. Repowering:**

The WPG will be free to re-power their Projects from time to time during the EPA duration. However, the TANGEDCO will be obliged to buy power only within the CUF specified in the EPA. Any excess generation will be purchased by the TANGEDCO at 75% of the PPA tariff. If there is any shortfall of generation after repowering of Project, the WPG shall pay TANGEDCO the prevailing forbearance price fixed by the CERC for the actual shortfall in units.

**8. Offtake Constraints due to grid security:**

During the operation of the Project, there can be some periods where the Project can generate power but due to temporary transmission unavailability, and grid management the same does not happen. In such cases the generation compensation shall be:

Sl. No.	Duration of Grid unavailability	Provision for generation compensation
a.	Grid unavailability of upto 50 hours in a financial year:	No generation compensation
b.	Grid unavailability beyond 50 hours in a financial year:	The normative CUF of 27.15% or committed CUF, whichever is lower, for the period of grid unavailability beyond 50 hours, shall be taken for the purpose of generation compensation. Corresponding to this generation loss*, the excess generation by the WPG equal to this generation loss shall be procured by TANGEDCO at the PPA tariff so as to offset this loss in the succeeding three contract years.

\* ---- Generation loss = [(Average Generation per hour during the contract period) x (number of hours of grid availability during the contract year)].  
 Where average Generation per hour during the contract year (kWh) = Total Generation in the contract year(kWh)/Total hours of generation in the contract year.

**9. Termination Compensation:**

In order to increase the bankability of the Wind EPAs, it is important to keep such EPA's sacrosanct. Accordingly, the TANGEDCO and the WPG are restricted from unilateral termination or amendment of the EPA's.

Notwithstanding above, in case, such a scenario arises, there shall be a termination compensation to be paid in the following manner:

**(i) Termination of EPA for reasons solely attributable to the WPG:**

The TANGEDCO shall not be liable to pay any termination compensation to the WPG. The Lender(s) may take over the project and manage it themselves, or they may bring in new promoter(s). Save as otherwise provided in the guidelines, the WPG cannot terminate PPA to supply power to a third party or for captive use.

**(ii) For all other cases:**

Save as otherwise excluded in the Force Majeure clause(s) in the EPA, balance debt (as per the Debt-repayment schedule) or actual debt, whichever is less, minus the insurance coverage on the Project, shall be provided by the TANGEDCO to the WPG. The Wind power Project shall be handed over to TANGEDCO.

Notwithstanding the above, the WPG may choose not to take the termination compensation and retain the project assets, with the consent of the lenders.

**10. Billing and Payment:**

- (a) The WPG shall raise a monthly bill along with the supporting documents every month to the distribution licensee for the net energy sold/exported after deducting the charges payable to the distribution licensee such as for startup/standby power, Grid availability charges, Harmonics compensation charges and reactive power charges or any other lawful charges recoverable by the licensee.
- (b) The Distribution Licensee shall make payment to the WPG for the Wind energy purchased/exported at the metering point within 60 days from the date following the date of receipt of the bill in complete shape.
- (c) Stand-by (backup) Letter of Credit shall be opened by Distribution Licensee for an estimated value of one month bill, which will be valid

for a period up to one year. The Letter of Credit so opened shall be renewed year after year for the value based on average value of previous 12 months bills. The LC will be revoked in the event of invocation due to non-payment of energy charges within the stipulated time frame. All the charges relating to establishment, amendment and operation of Letter of Credit shall be to the account of the beneficiary that is, WPG.

- (d) The Distribution Licensee wherever necessary, shall raise a bill at the end of a billing period of one month for the power drawn by the WPG in excess over the exported power and the WPG shall make payment to the Distribution Licensee the appropriate tariff as per the Commission's tariff order in force, within the time stipulated to the HT consumers in the Commission's Supply code, 2004.

**11. Assignment to lender:**

This Agreement shall be binding upon, and inure to the benefit of the parties and their respective successors and permitted assigns. This Agreement shall not be assigned by any party other than by mutual consent between the parties to be evidenced in writing:

*Provided that, such consent shall not be withheld if the Distribution Licensee seeks to transfer to any transferee all of its rights and obligations under this agreement.*

*Provided further that any successor(s) or permitted assign(s) identified after mutual agreement between the parties may be required to execute a new agreement on the same terms and conditions as are included in this Agreement.*

**12. Applicability of the Electricity Laws:**

Both parties shall be bound by the provisions contained in the Electricity Act, 2003, (CA 36 of 2003) and the Regulations, Rules, codes, notifications, orders, etc., made there under, as amended from time to time.

**13. Terms of the Agreement:**

- (a) This agreement shall come into effect from the "Effective Date".
- (b) The actual period of sale/purchase of power by the WPG/Distribution licensee under this agreement shall be valid for twenty five (25) years, subject to COD and expiry date.
- (c) The parties to the agreement shall have the option to terminate the agreement for violation of any of the clauses of the

agreement after serving a notice of three months on the other party.

**14. Clean Development Mechanism Benefits:**

The CDM benefits accrued shall be shared between the parties on gross basis starting from 100% to the WPG in the first year and thereafter reducing by 10% every year till the sharing becomes equal (50:50) between the WPG and the Distribution Licensee in the sixth year. Thereafter, the sharing of CDM benefits shall remain equal till such time the benefits accrue, provided that sharing shall take place only after actual receipt of benefit by the WPG. The CDM benefits availed by the WPG should be disclosed to the distribution licensee every year before 30<sup>th</sup> April.

**15. Settlement of Disputes:**

If any dispute or difference of any kind whatsoever arises between the parties relating to this agreement, it shall, in the first instance, be settled amicably, by the parties, failing which either party may approach the Commission for the adjudication of such disputes under section 86 (1) (f) of the Electricity Act, 2003 in accordance with the Conduct of Business Regulations 2004 and Fees and Fines Regulations 2004 of the Commission. This agreement shall be governed by the laws of India and the Courts at Chennai alone shall have jurisdiction.

**16. Commissioning:**

**(a) Part Commissioning:**

Machine wise commissioning accepted. But COD will be from the date of commissioning of the 1<sup>st</sup> machine, and the tenure of PPA shall be from the date of COD.

**(b) Commissioning Schedule and Liquidated Damages for Delay in Commissioning:**

The Wind power Project shall be commissioned within 15 months from the date of signing of Energy Purchase Agreement. In case of failure to achieve this milestone, TANGEDCO shall encash the Performance Guarantee in the following manner:

**Delay up to Five months:**

TANGEDCO will encash the Performance Bank Guarantee on per day basis and proportionate to the Capacity not commissioned, with 100% encashment for 5 months delay, beyond the stipulated commissioning period of 15 months.

**Delay beyond five months:**

In case the commissioning of project is delayed beyond 5 months, the WPG shall, in addition to 100% encashment of Bank Guarantee, shall pay TANGEDCO a sum of Rs.10,000/- per MW per day of delay for the delay in such remaining Capacity which is not Commissioned.

The maximum time period allowed for commissioning of the full Project Capacity with encashment of Performance Bank Guarantee and payment of Liquidated Damages shall be 10 months from the scheduled date of commissioning. The amount of Liquidated Damages worked out as above shall be recovered by TANGEDCO from the payments due of the Project Developer on account of Sale of Wind Power to TANGEDCO. In case, the Commissioning of the Project is delayed beyond 10 months from the scheduled date of commissioning, the EPA capacity shall stand reduced / amended to the Project Capacity Commissioned and the EPA for the balance Capacity will stand terminated and shall be reduced from the selected Project Capacity. Also, if no capacity of the project is not commissioned beyond 10 months from the scheduled date of commissioning, the EPA will be terminated.

**17. Force Majeure:**

Both the parties shall ensure compliance of the terms of this agreement. However, no party shall be liable for any claim for any loss or damage whatsoever arising out of failure to carry out the terms of this agreement to the extent that such failure is due to force majeure events as defined here under. Any party claiming the benefit of this clause shall satisfy the other party of the existence of such an event(s)

by giving notice to the other party in writing within 15 days from the occurrence of such Force majeure.

“Force Majeure” events means any event which is beyond the control of the parties involved which they could not foresee or with a reasonable amount of diligence could not have been foreseen or which could not be prevented and which substantially affect the performance by either party such as but not limited to:-

- (i) Acts of natural phenomena, including but not limited to floods, droughts, earthquakes, lightning and epidemics;
- (ii) Acts of any Government domestic or foreign, including but not limited to war declared or undeclared, hostilities, priorities, quarantines, embargoes;
- (iii) Riot or Civil Commotion; and
- (iv) Grid / Distribution System’s failure not attributable to parties to this agreement.

In witness whereof \_\_\_\_\_ acting for and on behalf of **M/s.**\_\_\_\_\_, (Name of WPG) and \_\_\_\_\_ (Name, designation and officer, concerned of the Distribution Licensee) acting for and on behalf of the Distribution Licensee have hereunto set their hands on the day, month and year hereinabove first mentioned.

In the presence of witnesses

- 1.
  - 2.
- Common Seal

Signature  
Wind Power Generator

In the presence of witnesses

- 1.
- 2.

Signature  
Authorized Officer of the  
Distribution Licensee