

**ENERGY PURCHASE AGREEMENT FOR SOLAR POWER PLANTS COVERED  
UNDER ORDER NO.7 OF 2014, DATED 12.09.2014**

This agreement made at ..... on this ..... day of ..... Two thousand and ..... between ..... (name of the Solar Power Generator), a company incorporated under the Companies Act, 1956/a partnership firm/Limited Liability Partnership firm/a sole proprietorship having its registered office at ...../ hereinafter called the Solar Power Generator or SPG (which expression shall wherever the context so permits means and include its successors in interest, executors, administrators and permitted assigns) represented by ..... (name and designation) 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 ..... (designation and office of the authorized officer of the Distribution Licensee).

WHEREAS the SPG has sent a proposal to the Distribution Licensee to sell solar energy generated from its solar power plant No(s) ..... as detailed below, having a total capacity of \_\_\_\_\_ MW<sub>AC</sub>

Sl.No.	SF No. & Address	Capacity	Plant Number
1.	Generator 1	----	----
2.	Generator 2	----	----
3.	----	----	----

AND WHEREAS the Distribution licensee has accepted the said proposal and has agreed to buy the solar energy from the SPG from their/his aforesaid generators vide Lr.No. \_\_\_\_\_ on the terms and conditions hereinafter agreed to.

**NOW THESE PRESENTS WITNESSETH 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 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 SPG 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 solar power developer and the date on which the agreement shall come in to 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 Solar power generators or the total capacity of the Solar 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 2(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 2(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 other related equipments and the entire interface line shall be provided by the SPG 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 Solar Power Generator (SPG) and the Distribution Licensee/STU shall comply with the provisions contained in Commission's Intra State Open Access Regulation 2014 and Central Electricity Authority (CEA) (Technical Standards for connectivity to the Grid) Regulations, 2007 for grid connectivity which includes the following namely;
  - (i) Site Responsibility Schedule;
  - (ii) Access at Connection Site;
  - (iii) Site Common Drawings;
  - (iv) Safety;
  - (v) Protection System and Co-ordination;
  - (vi) Inspection, Test, Calibration and Maintenance prior to Connection.

- (d) The SPG shall comply with the safety measures contained in Central Electricity Authority Regulations 2010 and as amended from time to time.
- (e) 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 solar 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 SPG agrees to 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 SPG injects the harmonics beyond such stipulated limit, a compensation of 5% 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 SPG agrees to 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 SPG shall provide suitable automatic safety devices so that the Generator shall automatically be isolated when the grid supply fails.

- (e) The SPG 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 SPG 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 Solar Power Generators. The SPG 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 SPG 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 SPG 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 SPG, the SPG shall provide the following schemes of protection namely;

- (i) Separate overload relays on each phase and earth fault relays shall be installed by the SPG. Under no circumstances these relays shall be by-passed.
  - (ii) With suitable current transformer and relay connections, the load sharing by the SPG 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 SPG 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 SPG.
  - (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 SPG 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.

#### **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 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 SPG.

- (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 ABT Compatibility 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 SPG can have a standby meter of the same specification tested and sealed by the Distribution Licensee/STU at the cost of SPG.
- (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 SPG. 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 SPG.
- (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 SPG 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 Solar Power Tariff shall be Rs. .... per unit as fixed by the Commission in Order .....



(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 SPG 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 under applicable temporary supply tariff, as per Commission's Tariff Order and as amended from time to time.

**6. Billing and Payment:-**

(a) The SPG 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 and reactive power or any other lawful charges recoverable by the licensee the bill shall be with a certification as to whether the SPG has availed Accelerated Depreciation benefit or not.

(b) The Distribution Licensee shall make payment to the SPG for the solar energy purchased/exported at the metering point within 60 days from the date following the date of receipt of the bill in complete shape. Any delayed payment beyond sixty days shall attract interest at the rate of 1% per month for the period beyond sixty days.

(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 revolved 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, SPG.

- (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 SPG in excess over the exported power and the SPG shall make payment to the Distribution licensee at HT temporary supply tariff within the time stipulated to the HT consumers in the Commission's Supply Code, 2004.

#### **7. 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

#### **8. 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 thereunder, as amended from time to time.

**9. 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 SPG/Distribution licensee under this agreement shall be valid for ..... 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.

**10. Clean Development Mechanism Benefits:-**

The CDM benefits accrued shall be shared between the parties on gross basis starting from 100% to the SPG in the first year and thereafter reducing by 10% every year till the sharing becomes equal (50:50) between the SPG 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 SPG. The CDM benefits availed by the SPG should be disclosed to the distribution licensee every year before 30<sup>th</sup> April.

**11. 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 Fine Regulations 2004 of the Commission. This agreement shall be governed by the laws of India and the Courts at Chennai alone shall have jurisdiction.

## **12. 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 Thiru\_\_\_\_\_ acting for and on behalf of \_\_\_\_\_ (Name of SPG) 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.

Signature  
Solar Power Generator  
Common Seal

In the presence of witnesses

1.

2.

Signature  
Authorized Officer of the  
Distribution Licensee