

# Power Purchase Agreement Format



FORUM OF REGULATORS

**June, 2012**

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**POWER PURCHASE AGREEMENT FORMAT**

This POWER PURCHASE AGREEMENT (hereinafter referred to as "Agreement" or "PPA") is made and entered into effective as of \_\_\_\_\_ day of \_\_\_\_\_ amongst:

1. \_\_\_\_\_ a Company registered under the Companies Act 1956 with its registered office at \_\_\_\_\_ (Hereinafter referred to as "Rural System Operator", which expression shall unless repugnant to the context or meaning thereof, include its successors and assignees).

AND

2. \_\_\_\_\_ a Company incorporated under the Companies Act, 1956 and carrying on the business of distribution and supply of electricity in the area of supply mentioned in its license and having its registered office at \_\_\_\_\_ hereinafter referred to as "Distribution Licensee" (which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors & assignees).

3. The State Electricity Regulatory Commission has published the Guidelines, namely, Guidelines by,\_\_\_\_ (*Name of State*) Electricity Regulatory Commission for Development, Management and Operations of Off-Grid Distributed Renewable Energy Generation and Supply, , (hereinafter referred to as Rural System Operator Guidelines or RSO Guidelines) enabling establishment of Off-Grid Renewable Energy Generation Facility and procurement of power from such off-grid generation facility by the Distribution Licensee thereof.

THIS AGREEMENT, between Rural System Operator and Distribution Licensee, bears the following recitals:

A. In pursuance of the Clause 6 of Guidelines by\_\_\_\_ (*Name of State*) Electricity Regulatory Commission for Development, Management and Operations of Off-Grid Distributed Renewable Energy Generation and Supply, the \_\_\_\_\_(*Name of Rural Local Body*) has granted consent to Rural System Operator to establish Off-Grid electric power generation facility in the Project Area situated at \_\_\_\_\_(*Name of Location*).

B. Rural System Operator intends to own and/or operate an electric power generation facility using Off-grid Renewable Energy System (ORES). Rural System Operator desires to operate such generation in the area of Distribution Licensee and sell a portion or all of the power produced to the Distribution Licensee. The Distribution Licensee has no direct financial involvement in the investment, construction, operation, or maintenance of Rural System Operator's generation facility.

C. Rural System Operator's generation facility is described as:

Make: \_\_\_\_\_

Model: \_\_\_\_\_, Serial Number: \_\_\_\_\_

Fuel or Energy Source: \_\_\_\_\_

Name Plate Output Rating: \_\_\_\_\_ kW, \_\_\_\_\_ Volts, \_\_\_\_\_ Phase, 50 Hertz.

D. Distribution Licensee is willing to permit Rural System Operator to operate its generation facility in the area of Distribution Licensee and purchase power from the Rural System Operator under certain conditions as outlined under this Power Purchase Agreement and in line with the said RSO Guidelines.

NOW, THEREFORE, in consideration of the matters described above and the covenants in this Agreement, the Rural System Operator and Distribution Licensee intending to be legally bound, agree as follows:

**1. DEFINITIONS**

In this Agreement, unless the context requires otherwise, the following terms shall have the meaning hereinafter as assigned to them:

- 1.1 "Billing Month" means the month in which the Bill is issued.
- 1.2 "Clearances" means any consent, license, approval, permit, or other authorization of whatsoever nature which is required to be obtained by the Rural System Operator from any competent authority for the coming into force the PPA, for the construction, operation and maintenance of the power plant, for the use of the power plant to produce and delivery of electricity into State Grid/Distribution System and all such other matter as may be necessary in connection with the project.
- 1.3 "Commercial Operation Date (COD)" means the date on which the Rural System Operator commissions Off-grid Renewable Energy System after the generating unit has completed its performance acceptance test as per standards prescribed.
- 1.4 "Commission" means the State Electricity Regulatory Commission constituted under sub-section (1) of section 82 of the Electricity Act. 2003.
- 1.5 "Commissioned" means the state or act of successful completion of commissioning of the Off-grid Renewable Energy System.
- 1.6 "Isolated Distribution System" means the small distribution system developed at remote place at the Project Area where Distribution Licensee's Grid/Distribution Network is not available with the sole aim of rural electrification.
- 1.7
- 1.8 "Delivery point" means the interconnection point of Off-Grid Renewable Energy System with Isolated Distribution System or the receiving station of Distribution Licensee as the case may be.
- 1.9 "Delivered Energy" means the net electrical energy measured in terms of kWh generated by the power plant and delivered by Rural System Operator at the Delivery point in accordance with this PPA.

- 1.10 "Designated Officer" means the officer of concerned Distribution Licensee deputed including any other authorized officer of the concerned Distribution Licensee.
- 1.11 "Distribution Licensee" means Distribution Company as specified in PPA.
- 1.12 "Dispute" means any difference, disagreement, failure to perform or deliver, failure to resolve any contentious issue of whatsoever nature and howsoever arising under, out of or in connection with or relating to this PPA.
- 1.13 "Electricity Act, 2003 or E Act 2003" means the Electricity Act, 2003 (Act no. 36 of 2003) enacted by the Parliament and includes any amendment thereto.
- 1.14 "Emergency" means a condition or situation that, in the opinion of the Rural System Operator or Distribution Licensee does materially and adversely affect/endorse, (i) ability of the Rural System Operator to maintain safe, adequate and continuous generation of the Energy at the Power Station, (ii) security of persons, plant or equipment at the Power Station, or (iii) the Interconnection Facilities at State Grid/Distribution System.
- 1.15 "Grid Code" means the Grid Code approved by the SERC and shall include any amendment/ modification thereof.
- 1.16 "Interconnection Facilities" means all the facilities, to be installed and maintained by Rural System Operator at the Delivery Point to enable evacuation of the delivered energy from the Power Station and injection into Isolated Distribution System in accordance with the PPA (Which may include, Without limitation, transformers, switching equipments and protection, control and metering devices etc.).
- 1.17 "kW" means one kilowatt or 1000 watts of electrical Power.
- 1.18 "kWh" means one kilowatt - hour or 1000 watt-hour of electrical Energy.
- 1.19 "Metering Code" means Metering Code for State Grid as approved by the SERC and shall include any amendment/modification thereof.
- 1.20 "Metering System" means the metering equipment as defined in the Metering Code.
- 1.21 "Net Electrical Power" means energy output in kWh net of Auxiliary Consumption delivered at Delivery Point.'Project Area' means un-electrified habitation in which the electricity is proposed to be supplied from Off-grid Renewable Energy System and situated at\_\_\_\_\_, (Name of Habitat/Basti/Village, Taluka, District, State),
- 1.22 "Off-grid Renewable Energy System (ORES)" means the stand alone systems comprising power plant generating electricity from renewable energy sources where grid is not

connected and distribution infrastructure including associated appliances used for distributing electricity produced in the said plant to end users in the Project Area.

- 1.23 "RE Policy" means the Policy for Promoting Generation of Electricity through Non-Conventional Energy Sources" issued by State Government and amended in it from time to time. Rural Local Body means the Panchayati Raj Institutions as referred in the Seventy Third Amendment Act to the Constitution of India
- 1.24 "Rural System Operator" means \_\_\_\_\_(Name of project developer) who shall develop and shall maintain the Off-grid Renewable Energy System in accordance with Off-Grid Rural Supply Regulations. .
- 1.25 "Prudent Utility Practices" means accepted international/Indian practice(s), standard(s), engineering and operation considerations, taking into account the conditions prevalent at Site including manufactures' recommendations generally followed in the operation and maintenance of facilities similar to the Project.
- 1.26 "SERC" means the \_\_\_\_\_(Name of SERC) State Electricity Regulatory Commission.

In this Agreement unless otherwise stated, the singular includes the plural and vice versa.

The terms, which have been used in the PPA and have not been defined above, shall have meaning assigned in the Electricity Act, 2003 and amended from time to time.

## **2. LICENSES & PERMITS**

The parties acknowledge that the Rural System Operator has availed consent from the Rural Local Body for setting up Off-grid Renewable Energy System in the Project Area and intends to supply power from ORES to Distribution Licensee.

Further, the Rural System Operator at its sole cost and expense, shall acquire and maintain in effect all clearances, consent, permits, licenses and approvals as may be necessary from time to time from any regulatory/competent authority in order to enable it to perform its obligations under the PPA for the construction, operation and maintenance of the power plant and for the use of the power plant to produce and deliver electricity to the Distribution Licensee to meet the consumption in the Project

Area through franchise arrangement. In future all other expenses related to Grid Interconnection of project shall be borne by Rural System Operator as necessary in connection of the project.

Distribution Licensee hereby agrees to render all reasonable assistance to the Rural System Operator to enable the latter to obtain such clearances. Further, while planning grid expansion Distribution Licensee will take into consideration the said Off-Grid Renewable Energy System under operation in the Project Area.

Provided, however, non-rendering or partial rendering of assistance shall not in any way absolve the Rural System Operator of its obligations to obtain such clearances. Nor shall it mean to confer any right or indicate any intention to waive the need to obtain such clearances.

Provided also that Rural System Operator shall comply with the standards of performance as may be applicable under relevant regulations addressing specific requirements of off-grid rural system operation and network development.

### **3. TERM OF POWER PURCHASE AGREEMENT**

Term of the Power Purchase Agreement shall be for the life of the Off-Grid Renewable Energy System as per the order issued by State Electricity Regulatory Commission for different off-grid RE applications, from the date of commercial operation of the power plant. The Power Plant will be commissioned by the month of \_\_\_\_\_ unless extended by SREDA/Distribution Licensee.

This Agreement shall come into effect when signed by the Rural System Operator and the Distribution Licensee and shall remain valid through Term of PPA unless terminated by either party with thirty (30) day’s advance written notice to the other due to Event of Default as outlined under Clause 8 of PPA.

### **4. CAPACITY, CONFIGURATION, FEED IN POINT AND METERING**

#### **4.1. Capacity:**

The Rural System Operator hereby confirms that the Off-grid Renewable Energy System shall be sized to cover minimum (\_\_\_\_\_) hours **(say, six hours)** (to be specified as per Application by RSO) of supply for projected load growth for the next five years.

#### **4.2. Configuration:**

Rural System Operator hereby confirms that it shall select and adopt technology based on the locally available renewable resources for development of Off-Grid Renewable System. .

4.3. Other Conditions related to Connectivity and Operation of ORES:

- (a) Feed in point shall be generation bus bar of the Off-grid Renewable Energy System.
- (b) The Rural System Operator has to deliver power to the Distribution infrastructure within franchisee area.
- (c) The Rural System Operator shall comply with the Grid Code, Load Despatch & System Operation Code, Metering Code, Performance Standards, Protection Code and Safety Code etc. as applicable from time to time in the State.
- (d) The Rural System Operator shall abide by the Distribution Licensee Connection Conditions as applicable from time to time.
- (e) The Rural System Operator shall also provide suitable protection and control devices / islanding devices as a future provision for synchronization of Off-grid Renewable Energy System to the grid.

4.4. Measurement of Electricity and Metering:

- (a) The measurement of Electricity shall be done by two metering systems one as main metering system and other as backup (or Check) metering system.
- (b) The installation and operation of the Meters shall be in accordance with the relevant Metering Regulations notified by Central Electricity Authority from time to time.
- (c) Consumer metering for every consumer is mandatory.
- (d) Metering arrangement shall be done in such a manner that injected energy can be measured separately for different RE technologies in case of deployment of more than one RE technology (e.g. Solar and Non-Solar).
- (e) The Rural System Operator shall be responsible for security & protection of metering arrangement based on the location of metering as stipulated in the metering code.
  - (i) The Metering equipment at the Delivery Point shall be in accordance with relevant provisions of Metering Code as applicable for generating stations



and shall be provided by the Rural System Operator at his own cost. Concerned Distribution Licensee will seal the meters and metering boxes.

- (ii) Wherever power is produced using more than one technology/power plant and are injecting energy produced by them using the common evacuation/injection system and through the common Metering Equipment, then common evacuation / injection system shall be supported by controller readings of individual technology/power plant using such common evacuation / injection system. Based on this break up, limited to total energy injection, the power purchase from the individual technology/power plant shall be regulated for the purpose of payment.

The Rural System Operator having the different technology/power plant can use the common injecting / metering equipment provided separate site metering duly sealed by concerned Distribution Licensee is installed for the purpose of bifurcation of energy from different technology/power plant.

This implies that the metering arrangement shall be done in such a manner that injected energy can be measured separately for different RE technology as may be necessary in accordance with State Govt. Policy or SERC Orders, as the case may be.

## 5. POWER PURCHASE PRICE

- 5.1 The Tariff Rate to be paid by the Distribution Licensee, net of all State Govt. and local taxes and duties as may be levied on generation and/or sale of electricity for all electricity made available and sold by the Rural System Operator to Distribution Licensee shall be based on the **Feed in Tariff as specified by SERC** from time to time.
- 5.2 The Feed in tariff Rate for the purpose of electricity generated and supplied by Rural System Operator from the said Off-Grid Rural System under this Agreement shall be as determined by State Commission on the basis of cost plus regulated returns principles and as stipulated hereunder as \_\_\_\_\_(Rs/kWh) (subject to escalation as outlined below). The said Feed-in Tariff shall be applicable from the date of Commercial Operation through the Term of the PPA alongwith escalation factors (if applicable), as outlined in the following Table:

	<b>Yr-1</b>	<b>Yr-2</b>	<b>Yr-3</b>	<b>Yr-4</b>	.....	.....	<b>Yr-n</b>
Feed-in Tariff (Rs/kWh)							

5.3 All other terms and conditions as outlined by the State Commission under its Order for determination of Feed-in Tariff for Off-Grid Renewable Energy System shall apply mutatis mutandis for the purpose of this Power Purchase Agreement.

**6. METER READING, SEALING AND BILLING PROCEDURE**

6.1. Reading and Correction of Meters:

- (a) The Distribution Licensee and concerned Rural System Operator shall jointly read the Metering System on the first (1st) day of every month at the delivery point.
- (b) In the event that the main metering system is not in service as a result of maintenance, repairs or testing then the backup metering system shall be used during the period the main metering system is not in service and the provisions above shall apply to the reading of the backup metering system.
- (c) Meter readings taken jointly at the appointed date and time will be signed by the representatives of Distribution Licensee and of concerned Rural System Operator.
- (d) Rural System Operator shall ensure to furnish the following at the time of submission of first invoice: -
  - (i) Date of connection to common delivery point and permission letter of authority authorizing the interconnection.
  - (ii) Reading of new meter(s) recorded at the time of installation.
  - (iii) Details of free energy, if any injected in the system between date of connection and COD.

- (iv) A schematic diagram of Distribution infrastructure showing the location of energy meters for billing purposes shall be furnished along with first invoice.
- (v) Details of off-grid generator facilities and meter details.

6.2. Sealing and Maintenance of Meters:

- (a) The Distribution Licensee shall seal the main metering system and the backup metering system in the presence of representatives of Rural System Operator.
- (b) When the Main Metering System and/or Backup Metering System and/or any component thereof is found to be outside the acceptable limits of accuracy or otherwise not functioning properly, it shall be repaired, recalibrated or replaced as soon as possible by the Rural System Operator.

Distribution Licensee will ensure that metering system is tested for accuracy at least once in a year and report furnished along with joint meter reading.

- (c) Any meter seal(s) shall be broken only by the authorised officer of Distribution Licensee's in the presence of representative of Rural System Operator, whenever the Main Metering System or the backup metering system is to be inspected, tested, adjusted, repaired or replaced.

6.3. Records:

Each Party shall keep complete and accurate records and all other data required by each of them for the purposes of proper administration of the PPA and the operation of the Off-Grid Renewable Energy System. Among such other records and data, the Rural System Operator shall maintain an accurate and up-to-date operating log at the Power Plant with records of:

- (a) Various operating parameters like real and reactive power generation, frequency, bus voltage(s), Main Meter and Back up Meter readings etc. as mutually agreed; Rural System Operator shall furnish controller meter reading every month along with the invoices.
- (b) Any unusual conditions found during operation/inspections;
- (c) Chart and printout of event Joggers, if any, for system disturbances/outages
- (d) Distribution Licensee shall cross-check the readings of energy meters at receiving station with the energy exported by individual generators twice a year.

All the records will be preserved for a period of 36 months.

**7. BILLING AND PAYMENT PROCEDURE**

7.1. Billing Provision:

- (a) The energy delivered at Delivery Point or recorded at the metering point shall be the basis for billing of energy delivered by the Rural System Operator.
- (b) The Billing will be on monthly basis. The Distribution Licensee will be billed by the Rural System Operator based on joint meter reading promptly within three working days from the meter reading date. Rural System Operator will submit the monthly invoice and shall be entitled to receive payment from Distribution Licensee within ten working days after submission of invoice.
- (c) The Rural System Operator shall also submit Monthly Energy Reports to the Distribution Licensee in the third week of the next month which shall cover information about Energy Balance in the Project Area for the Monthly Period such as electricity injected by Rural System Operator, Energy supplied to Consumers in Project Area based on Consumer Meter Reading, Energy Loss in the Project Area for the relevant Monthly Period.

7.2. Payment Procedure:

- (a) Monthly invoice showing the quantity of electricity delivered at Delivery Point and Tariff Rates payable Distribution Licensee shall be submitted by the Rural System Operator to the designated officer of concerned Distribution Licensee.
- (b) The Distribution Licensee shall make payment of the amounts due, calculated at the Tariff Rate for that particular month within ten working days after the receipt of the monthly invoice without any interest. Distribution Licensee will arrange payment of bill through a Bank. The Rural System Operator may designate by notice the details of the Bank Account to Distribution Licensee. Late payments beyond a period of ten working days shall carry, for the period of delay, interest at the prevailing Prime Lending Rate (PLR) of State Bank of India.
- (c) All payments for energy supplied under this Agreement as per the joint meter reading shall be free of any restriction or condition and without deduction or withholding on account of any other amount, whether by way of set-off or

otherwise, but the making of such payments shall be without prejudice to other rights after adjusting Distribution Licensee dues on the Rural System Operator, if any.

## **8. DEFAULT & TERMINATION**

- 8.1 The PPA may be terminated either by the Rural System Operator or the Distribution Licensee only in the event of default by Distribution Licensee or the Rural System Operator respectively.
- 8.2 Default by Distribution Licensee will mean non-payment or partial payment of electricity charges for a period of consecutive three months.
- 8.3 Default by Rural System Operator shall mean non-supply of electricity generated and delivered at the Delivery Point for a period of consecutive three months for reasons exclusively attributable to the Rural System Operator.
- 8.4 In case of default, the non-defaulting party shall issue a default notice to the defaulting party. If the default is not fully set right within one month from the date of the default notice, then, in case of default by:
- (a) Rural System Operator: - Distribution Licensee may terminate the PPA and acquire the ORES at the price equivalent to 70% of the prevalent book value of assets of ORES.
  - (b) Distribution Licensee: - The Rural System Operator may terminate the PPA and shall be free to sale power to third party provided connectivity can be established or Rural System Operator can claim Distribution Licensee to compensate Rural System Operator at Buyout price equivalent to prevalent book value of the Off-Grid Rural Energy System. .

## **9. INDEMNIFICATION AND INSURANCE**

### **9.1. Indemnification:**

Each party shall indemnify, defend and hold harmless the other, its Directors and Chairman of the Companies partners, assigns, trustees, agents, officers and employees, against all claims, demands, judgments and associated costs and expense, related to property damage, bodily injuries or death suffered by third parties resulting from breach of its obligation by such party under the PPA except to the extent that any such claim has

arisen due to a negligent act or omission, breach of contract or breach of statutory duty on the part of the other party, its contractors, servants or agents. The obligations contained in this Article shall survive the termination of the PPA.

9.2. Insurance:

Throughout the term of the PPA, the Rural System Operator, at their own cost and expense, shall maintain and keep in full force the following:

- (a) Insurance of the power plant and interconnection facilities against all loss or damage of the kinds usually insured against by operators similarly situated, by means of insurance policies issued by reputable insurance companies with uniform standard coverage endorsement at that time, in amounts and with such deductible provisions as determined by the Rural System Operator. The Rural System Operator may insure or cause to be insured such property under a blanket insurance policy in such amounts as determined by it;
- (b) Public liability insurance with respect to the power plant and interconnection facilities with one or more reputable insurance companies for death or bodily injury and property damage resulting from the operations of the generation facility or plant;
- (c) Statutory workers compensation insurance and employer's liability insurance; and
- (d) Any other insurance that may be required pursuant to a financing agreement or statutory requirement.

**10. FORCE MAJEURE**

Force Majeure means any event or circumstance, which may include rebellion, mutiny, civil unrest, riot, strike, fire, explosion, flood, cyclone, lightening, earthquake, war or other forces, accidents or an act of God or other similar causes beyond the control, if such event or circumstance is beyond the reasonable direct or indirect control and without the fault or negligence of the Party claiming Force Majeure and which results in such Party's inability, notwithstanding its reasonable best efforts, to perform its obligations in whole or in part.

The Party rendered unable to perform by reason of Force Majeure shall notify the other Party of such circumstance and shall exercise due diligence to end the inability as promptly as practicable. The time frames for performance shall be extended by the

number of days that performance is excused due to Force Majeure. In the event of the Force Majeure conditions preventing the plant from resuming the commercial operations for a period in excess of one hundred days, the party shall consult in good faith as to the best course of action. If it is found that it is impossible to resume commercial operation of the plant then the party rendered unable to perform its obligations may serve a notice for termination of the PPA.

Neither Party shall be entitled for claiming compensation for damages or loss in the event of Force Majeure or in case of the following events:

- (a) Planned shutdown(s) for the maintenance of the Interconnection system as mutually agreed; and
- (b) Failure of grid supply due to reasons beyond the control of the Distribution Licensee.

**11. DISPUTES**

11.1. Settlement of Disputes:

Except where expressly provided to the contrary in this PPA, any matter or dispute or difference of whatsoever nature, whosoever arising under, out of or in connection with the PPA {collectively called 'Disputes'} between the Parties herein shall be resolved by mutual agreement and If the matter is not resolved within 30 days or such extended period as mutually agreed upon, will be resolved by such person or persons as the SERC may nominate in that behalf on the application by any of the party; but in all other respects the arbitration shall be subject to provisions of the Arbitration and Conciliation Act, 1996.

11.2. Jurisdiction:

No courts, except Courts within the State shall have jurisdiction.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Rural System Operator

\_\_\_\_\_  
Distribution Licensee

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By: \_\_\_\_\_.

By: \_\_\_\_\_.

Title: \_\_\_\_\_.

Title: \_\_\_\_\_.