



**JHARKHAND RENEWABLE ENERGY DEVELOPMENT  
AGENCY (JREDA)**

Government of Jharkhand

Tender reference no.: **41/JREDA/SOLARCITY/RESCO/22-23**

Dated: **10.02.2023**

(Domestic Competitive Bidding)

**Request for Proposal (RFP)  
For Selection of Bidders**

**FOR**

**Empanelment of Agencies for Design, Manufacture, Testing, Supply, Installation & Commissioning of Grid connected Rooftop SPV Power Plants of different capacities including five years Comprehensive Maintenance Contract (CMC) on RESCO Mode for Commercial Electricity Consumers to Giridih Municipal Area under Solar City Scheme.**

**At**

**Giridih City in the state of Jharkhand**

**Jharkhand Renewable Energy Development Agency (JREDA)**

3rd Floor, S.L.D.C. Building, Kusai Colony, Doranda, Ranchi-834002.

Ph.: 0651-2491161, Fax: 0651-2491165,

E-mail: info@jreda.com; Website: www.jreda.com

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## **SECTION - I**

### **1. INVITATION FOR BIDS**

**Govt. of Jharkhand**  
**Energy Department**  
**Jharkhand Renewable Energy Development Agency (JREDA)**  
3rd Floor, S.L.D.C. Building, Kusai Colony, Doranda, Ranchi-834002.  
Ph.: 0651-2491161, Fax: 0651-2491165,  
E-mail: info@jreda.com; Website: [www.jreda.com](http://www.jreda.com)

**e-Procurement Notice**

**Tender reference no.: 41/JREDA/SOLARCITY/RESCO/22-23**

**Dated: 10.02.2023**

Online bids are invited for Empanelment of Agencies for Design, Manufacture, Testing, Supply, Installation & Commissioning of Grid connected Rooftop SPV Power Plants of different capacities including five years Comprehensive Maintenance Contract (CMC) on Turnkey basis for Commercial Electricity Consumers to Giridih Municipal Area under Solar City Scheme. The details are as follows:

1	Name of the work	Empanelment of Agencies for Design, Manufacture, Testing, Supply, Installation & Commissioning of Grid connected Rooftop SPV Power Plants of different capacities including five years Comprehensive Maintenance Contract (CMC) through <b>RESCO Mode</b> on Turnkey basis for Commercial Electricity Consumers to Giridih Municipal Area under Solar City Scheme.
2	Tentative quantity (kWp)	<b>05 MWp</b>
3	Completion of work	<b>06 (Six) Months</b>
4	Period of contract	<b>05 ( Five) Years</b>
5	Date of publication of NIT on website: <a href="http://jharkhandtenders.gov.in">http://jharkhandtenders.gov.in</a>	<b>15.02.2023 (Wednesday)</b>
6	Date & time of Pre-bid meeting	<b>20.02.2023 (Monday)</b> at 2.00 P.M.
7	Last date & time for receipt of online bids	<b>13.03.2023 (Monday)</b> upto 05:00 PM
8	Submission of original copies of Bid fee & EMD (Offline)	<b>13.03.2023 and 14.03.2023</b> up to 5.00 P.M.
9	Technical Bid Opening Date	<b>15.03.2023 (Wednesday)</b> at 3.00 P.M.
10	Name & address of office inviting tender	Director, Jharkhand Renewable Energy Development Agency(JREDA) 3 <sup>rd</sup> Floor, SLDC Building, Kusai, Doranda, Ranchi- 834002 (Jharkhand)
11	Contact no. of procurement officer	0651-2491163/67/61, 9570086777
12	Helpline no. of e-procurement	0651-2491163/67/61

**Any corrigendum/addendum can be seen on website: <http://jharkhandtenders.gov.in> & [www.jreda.com](http://www.jreda.com). Further details can be seen on website: <http://jharkhandtenders.gov.in> & [www.jreda.com](http://www.jreda.com)**

**Director,  
JREDA, Ranchi**

## **SCOPE OF WORK**

**BID-SUBJECT-** Design, Manufacture, Testing, Supply, Installation & Commissioning of Grid connected Rooftop SPV Power Plants of different capacities including Twenty-Five years Comprehensive Maintenance Contract (CMC) through **RESCO Mode** on Turnkey basis for Commercial Electricity Consumers to Giridih Municipal Area under Solar City Scheme **as per following categories:**

<b>Sr. No.</b>	<b>Category of systems</b>
<b>I.</b>	<b>01 KWp to 50 KWp</b>
<b>II.</b>	<b>More than 50 KWp to 1000 KWp</b>

1. A complete set of bidding documents in English may be purchased from <http://jharkhandtenders.gov.in> through IPG Mode payment of a non-refundable fee of Rs.5,000/-.
2. Bids must be submitted through e-tender upto 5.00 PM. on dt 13.03.2023 All bids must be accompanied by a Earnest Money Deposit of Rs. 10,00,000/- per 100KW Capacity. Conditional bids will be rejected. Bids will be opened in the presence of bidders representative who choose to attend at the address below on dated 15.03.2023 at 03:00 PM. The details are given below:

- (a) Name of office : Jharkhand Renewable Energy Development Agency
- (b) Name of person : Director, JREDA
- (c) Postal Address : 3rd Floor, SLDC Building, Kusai, Doranda, Ranchi- 834002 (Jharkhand)
- (d) Telephone nos. : 0651-3502644/45
- (e) Estimated Project Cost : 5 Cr. / MW
- (f) Date of commencement of sale of bidding document : 10.02.2023
- (g) Last date & time for receipt of bids : **13.03.2023** (Monday) upto 05:00 PM
- (h) Time and date of opening of technical Bids : **15.03.2023** (Wednesday) at 3.00 P.M.
- (i) Time and date opening of price bid : Inform after evaluation of Techno Commercial E-Bids

3. **The bidding shall be in two parts pattern. Technical Bid and Financial Bid:** Technical bid will contain the qualifying requirement and the financial offer will contain the offered prices.

## **A. DISCLAIMER**

1. Though adequate care has been taken while preparing the RFP document (inclusive of Formats and Annexures), the Bidder shall satisfy themselves that the document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately. If no intimation is received from prospective Bidder on or before pre-bid meeting date, it shall be considered that the RFP document is complete in all respects and has been received by the Bidder.
2. JREDA reserves the right to modify, amend or supplement RFP documents including all formats and annexure at any time before Bid submission date. Interested Bidders are advised to follow and keep track of web-site <http://jharkhandtenders.gov.in> & [www.jreda.com](http://www.jreda.com) for updated information. JREDA is not obligated to send/ communicate separate notifications for such notices/ amendments/ clarification etc. in the print media or individually.
3. While this RFP has been prepared in good faith, neither Nodal Agency nor their employees or advisors make any representation or warranty, expressed or implied, or accept any responsibility or liability, whatsoever, in respect of any statement or omissions herein, or the accuracy, completeness or reliability of information and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this RFP, even if any loss or damage is caused by any act or omission on their part.
4. The capitalized term or any other terms used in this RFP, unless as defined in RFP or repugnant to the context, shall have the same meaning as assigned to them by the Electricity Act, 2003 or Company Act, 1956/2013 or Income Tax Act, 1961 and the rules or regulations framed under these Acts.

## **B.** DEFINITIONS & ABBREVIATIONS

In this “Bid / RFP Document” the following words and expression will have the meaning as herein defined where the context so admits:

1. “Affiliate” shall mean a Company / Limited Liability Partnership (LLP) Firm/ that directly or indirectly
  - i. controls, or
  - ii. is controlled by, or
  - iii. is under common control witha Bidder or a member (in case of a Consortium) and control means ownership by one Bidder/member of at least 26% paid up equity capital in any other Bidder/member. Any bank or financial institution shall not be considered as Affiliate.
2. “B.I.S” shall mean specifications of Bureau of Indian Standards (BIS);
3. “Bid” shall mean the Technical and Financial proposal submitted by the Bidder along with all documents/credentials/attachments annexure etc., in response to this RFP, in accordance with the terms and conditions hereof;
4. “Bidder(s)” shall mean bidding Company/Limited Liability Partnership (LLP) in any form submitting the Bid. Any reference to the Bidder includes its successors, executors and permitted assigns as the context may require;.
5. “Bid Deadline” shall mean the last date and time for submission of Bid in response to this RFP as specified in Bid Information Sheet;
6. “Bid Security” shall mean Bid Security to be submitted by the Bidder along with the Bid;
7. “CEA” shall mean Central Electricity Authority;
8. “Capacity Utilization Factor” (CUF) in a Year shall mean the ratio of the output of the SPV Power Plant in a Year versus installed Project capacity x 365 x 24.  
(CUF = Cumulative Project output in kWh / (installed Project capacity in kWp x 24 x 365)); However, for demonstration of successful Completion, CUF shall mean the ratio of the output of the SPV Power Plant in a day versus installed Project capacity x 1 x 24,
9. “Chartered Accountant” shall mean a person practicing in India or a firm whereof all the partners practicing in India as a Chartered Accountant(s) within the meaning of the Chartered Accountants Act, 1949;
10. “Competent Authority” shall mean DIRECTOR JREDA, himself and/or a person or group of persons nominated by him for the mentioned purpose herein;

11. "Completion" shall mean supply and erection/installation of the Project and demonstration of CUF.
12. "Commissioning" shall mean demonstration of successful operation of the Grid Connected Project or part thereof, in accordance with prevailing regulations, by the Power Producer;
13. "Commercial Operation Date" or "COD" shall mean Day when full plant Capacity of the Project shall be commissioned;
14. "Company" shall mean a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto;
15. "Comprehensive Operation and Maintenance" or "Comprehensive O&M" shall mean insurance, warranty, spare parts and operation & maintenance of Projects during the term of the PPA;
16. "Day(s)" shall mean a 24 (Twenty Four) hour period beginning at 00:00 hours Indian Standard Time and ending at 11:59:59 hours Indian Standard Time;
17. "Effective Date" shall mean date of execution of PPA between Power Producer and Procurer;
18. "Eligibility Criteria" shall mean the Eligibility Criteria as set forth in this RFP;
19. "Eligible Bidder(s)" shall mean the Bidder who, after evaluation of their Technical Bid as per Eligibility Criteria, stand qualified for opening and evaluation of their Financial Bid
20. "Expiry Period" shall mean the 25th anniversary of the SCOD of the Project;
21. "Financial Bid" shall mean online financial Bid, containing the Bidder's quoted First Year Tariff as per format given in RFP;
22. "First Operational Year" shall mean the period commencing from the Initial Part Commissioning and expiring at the end of the Calendar Month in which Project completes twelve (12) Months from the COD of PPA Capacity;
23. "Free reserves" means free reserves as defined in definition No. 43 in Companies Act, 2013.
24. "IEC" shall mean specifications of International Electrotechnical Commission;
25. "Initial Part Commissioning" shall mean the commissioning of first part capacity of PPA Capacity by Power Producer, and shall include COD if the entire project is commissioned together;
26. "Inspecting Authority" shall mean the authority designated by the competent authority for the said purpose;



27. "kWp" shall mean KiloWatt Peak;
28. "kWh" shall mean KiloWatt Hour;
29. "LICA" shall mean Letter Inviting Consent for Agreement;
30. "MNRE" shall mean Ministry of New and Renewable Energy, Government of India;
31. "Month(s)" shall mean a calendar month as per the Gregorian calendar; "MWp" shall mean Mega Watt Peak;
32. "Nodal Agency" shall mean the Jharkhand Renewable Energy Development Agency (JREDA), Ranchi
33. "Operational Year(s)" the First Operational Year and thereafter each period of 12 (twelve) Months till the Expiry Date of PPA. It is pertinent that, last Operational Year would get shortened by number of months by which Commissioning of Project got delayed from the SCOD;
34. "Part Commissioning" shall mean the Commissioning of capacity lower than the PPA capacity for the purpose of receiving the Commissioning certificate for part capacity;
35. "Paid-up share capital" means the paid up share capital as defined in Section 2 of the Company Act, 2013.
36. "Performance Test" shall mean tests as defined in RfP which establish successful installation and working of equipment at desired level as per the requirement of issuing authority;
37. "Power Producer" shall mean anyone who has accepted the LICA then, enters into a PPA with the Procurer for supply of solar power and has legal ownership of all the equipment of the Project. After Expiry Date of PPA, ownership of Project will be transferred to Procurer as provided in the PPA;
38. "Power Purchase Agreement or PPA" shall mean the Power Purchase Agreement to be executed between Power Producer and the Procurer. The prescribed draft format for execution of PPA is attached as Performa VII to this RFP;
39. "PPA Capacity" shall mean the capacity undertaken by the Power Producer for implementation of grid connected roof top solar PV Projects for sale of solar power to Procurer after undertaking a technical analysis of the likely capacity under the RFP;
40. "Premise" shall mean any land, building or structure or part thereof or combination thereof including any other vacant /non vacant area which is part of the Procurer establishment;

41. "Procurer(s)" shall mean the person or company or organization procuring solar power from the Power Producer at competitively determined tariff under the RFP and the PPA;
42. "Project(s)" shall mean the Grid Connected Solar PV Project(s);
43. "Project Capacity" means the capacity of the Projects mentioned in the Agreement. The Project capacity specified is on "DC" Side only;
44. "Prudent Utility Practices" shall mean the practices, methods and standards that are generally accepted nationally from time to time by electric utilities for the purpose of ensuring the safe, efficient and economic design, construction, commissioning, operation and maintenance of power generation equipment of the type specified in this RFP, as per requirements of Indian Law;
45. "Qualified Bidder(s)" shall mean, for given scope of work, the Eligible Bidder having quoted minimum Financial Bid;
46. "RESCO" shall mean a person or an entity, which is in the business of supplying power generated through Project installed in the Premise of the Procurer on mutually agreed terms;
47. "RESCO Model" shall mean where the Bidders intend to use a Premise owned/used by the Procurer and enters into the PPA with Procurer for supply of solar power as per RFP;
48. "RFP" shall mean Request for Proposal (RFP)/Bid document/Tender document and shall include formats and annexures in it;
49. "Scheduled Commercial Operation Date" or "SCOD" shall mean 5 months from the PPA Signing date i.e., Effective Date as defined in PPA; including the extensions, if any, granted as per 0.
50. "Statutory Auditor" shall mean the auditor of a Company appointed under the provisions of the Companies Act, 1956 or Companies Act, 2013 or under the provisions of any other applicable governing law;
51. "Successful Bidder(s)" shall mean the Qualified Bidder(s) selected by Nodal Agency pursuant to this RFP for implementation of Project as per the terms and condition of the RFP Documents, and to whom LICA has been issued;
52. "Term of PPA" shall mean the period from the Effective Date until the Expiry Date;
53. "Year" shall mean 365 Days or 366 Days in case of leap year when February is of 29 Days;

**SECTION II**  
**INSTRUCTIONS TO BIDDERS (ITB)**

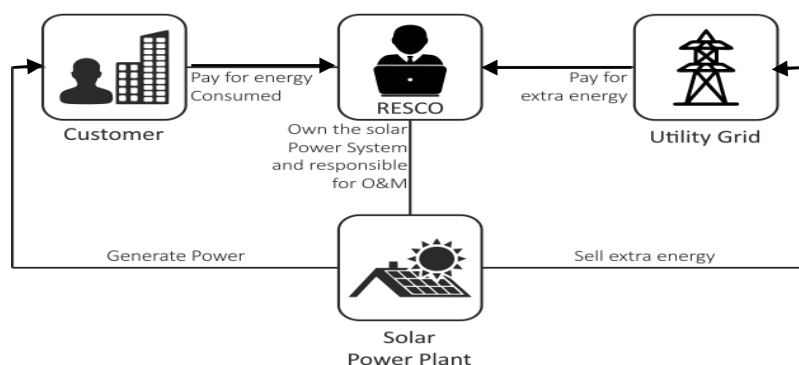
## **BID DETAILS AND GENERAL INSTRUCTIONS TO THE BIDDERS**

### **A. Scope of work: -**

- Jharkhand Renewable Energy Development Agency invites Bids from the Bidder to participate through this Request for Proposal (RFP) for Selection of Bidders for Implementation of aggregate capacity of 05 MWp of Grid Connected Roof Top Solar PV Systems for Sale of Solar Power under RESCO Model at various locations on private Buildings of commercial consumers of JBVNL e.g shopping mall, Hotels, Industries etc at Girdih Solar City in the state of Jharkhand. The Scope of the Work would essentially cover, but not limited to Identification and Site Survey of Roof Tops, Site Visit, Solar Potential Assessment, Finalization of Feasibility Report for Identified Locations, Design, Engineering, Manufacture, Supply, Storage, Civil work, Erection, Testing, Commissioning, Submission of Project Proposals, ensuring net-metering as per the state net metering policy ,quality control of the grid connected rooftop Solar PV Project including Operation and Maintenance (O&M) of the project for a period of 25 years under RESCO Model.
- Total energy demand of Girdih municipal area is given below:

Sl. No.	Category	No. of Connections (Nos.)	Total Sanctioned load (kW)
1	NDS	5312	9165
2	LTIS/Industrial	453	7400

- Under RESCO Mode, the entire system is owned by the developer. Responsibility of O&M for the system lifetime (25 years) is also with the developer. Rooftop owners may consume the electricity generated; Excess generation may be exported to the grid under net metering facility. The rooftop owner has to pay a pre-decided tariff on a monthly basis for the energy generated from the solar power plant.



- The site are generally of following types which are yet to be identified:- Private Offices, complexes, Hospitals, Collages, (Marketing area), Educational Institutes-such as Sr. Secondary Schools, Colleges, Universities Building etc
- The Solar PV system on the rooftop of the selected buildings will be installed for metering upto 80% of the annual energy requirements. depending upon the area of rooftop available and the remaining energy requirement of the office buildings will be met by drawing power from grid at tariff of DISCOM and plant will be set up as per regulations of State Net Metering Policy.

#### **B. Terms and Condition:**

- E-tenders shall be submitted on [www.jharkhandtenders.gov.in](http://www.jharkhandtenders.gov.in). Conditional tenders and tenders without EMD shall be rejected.
- The rates to be quoted in Financial Bid Form should be inclusive of all applicable taxes/octroi, installation commissioning and maintenance. The rates shall be valid for one year from the date of opening of financial bid.
- The bidder shall upload the bids as per formats on or before the date and time notified in this document/ NIT.
- Bids shall be uploaded in two parts.

##### **Part – I Techno Commercial Bid**

##### **Part – II Price Bid.**

- It should be clearly noted that Part –I should not contain any price bid.
- Part-I containing of those bidders who satisfy the requirement of bid security deposit will only be opened at the time & date notified for opening. If any bidder indicates the price in Part-I i.e techno commercial bid, the bid will not be read out and bid would stand rejected. Part II containing will not be opened at the time of opening Part-I. The bidders who do not qualify in Part –I, their bid of Part –II (Price Bid) shall not be opened.
- The Bidder shall submit complete e-bid through e-tender at website [www.jharkhandtenders.gov.in](http://www.jharkhandtenders.gov.in)
- Bids shall remain valid for the period 90 days after the date of bid opening

prescribed by the Purchaser for the purpose of evaluation. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

- Supply, installation and commissioning of the project should be completed within 150 days from the date of signing of Power Purchase agreement. However, the time for installation of net meter by the DISCOM may be excluded from this time period.
- The supporting documents to be submitted as proof with the bid should be in sequence order and page marked. The bids found not in order and conditional bids with addition/ omission to original DNIT are liable to be rejected
- The JREDA will not enter into any correspondence with the Bidders, except to furnish clarifications on Bid Documents, if necessary. The Bidders may seek clarifications or suggest amendments to Bid document in writing, through a letter or by fax (and also soft copy by e-mail) to reach JREDA office within 10 days of start of tender. No query will be entertained after this period
- The bidder shall upload the bids as per formats on or before the date and time notified in this document/ NIT
- Director JREDA reserves the right to accept or reject any or all the tenders without assigning any reason in the interest of user and Jharkhand Renewable Energy Development Agency.

### **C. BID DETAIL**

Bids are invited from the prospective bidders for the tentative Tendered Capacity of 05 MWp. Bidders will be required to furnish levellized tariff for 25 years starting from the date of commissioning of the Project. Capacity will be allocated based on the lowest levellized tariff. All the projects have been divided in IV categories. The total capacity offered may be increased as per requirement.

### **D. Size of Project: -**

The size of each project shall be in the range of 1 KWp to 1000 kWp at each location. One project may however comprise of several rooftop units or cluster of installations in a given area. All the consumers of the

JBVNL in Giridih City area who intend to setup rooftop solar PV plants in their premises shall be eligible to do so with project capacity ranging from minimum 1 kWp upto 1MWp (AC side). Each roof top unit can separately connect with the grid and may have separate meters.

## E. Bid Capacity

- Bidder can apply for minimum aggregate capacity of 100KW for each category.
- **The entire responsibility of finding the buildings/consumers lies with the Bidder**, JREDA shall not bear any responsibility in this regard. Successful bidders need to submit project sanction documents (PPA agreement between successful bidder and the rooftop owner(s) at the quoted project tariff as per RfS and project report) for the approval of JREDA for issuance of project specific sanction letter(s). The PPA format of **SECI will be used to signed for executing the contract. The PPA(SECI approved) and EPC shall be executed in the prescribed format.** JREDA shall facilitate the process and will have no responsibility whatsoever because of non availability of indicated buildings or non-signing of Agreements for any building.
- The bidding process under this Rooftop scheme is for aggregate capacity of 05 MWp of RESCO Model. **In a particular category, there will be only one price for all the bidders in for RESCO Model (Rs. Per kWh - Tariff).** Hence matching of L-1 Price needs to be adhered upon (for each part and category separately).
- The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The bidder shall also take appropriate insurance during O&M period, if required.
- **Correspondence for enquiries and clarifications:**

All correspondence, clarifications in respect of the bid document shall be addressed to:

Director,

Jharkhand Renewable Energy Development Agency (JREDA)

3rd Floor, SLDC Building, Kusai, Doranda,

Ranchi- 834002 (Jharkhand)

and should reach within 10 days from the date of publishing of NIT in JREDA office or through Email: [info@jreda.com](mailto:info@jreda.com)

## D. ELIGIBILITY CRITERIA FOR THE BIDDER:



i) TECHNICAL ELIGIBILITY CRITERIA:

- The Bidder should be System Integrator, Project Developer, RESCO Company or a body incorporated in India under the Companies Act, 1956 or 2013 including any amendment thereto or a registered firm in India. A copy of certificate of incorporation shall be furnished along with the bid in support of above and shall be engaged in the business of Solar/Renewable Power.

ii) FINANCIAL ELIGIBILITY CRITERIA:

- **For General Bidder:** Average Annual financial turnover during the last 3 years, ending 31st March of the previous financial year, should be at least 30% of the estimated cost of Quoted Capacity derived from the last three financial years ending on 31.03.2022 on the basis of audited annual accounts.
- **For MSEs of Jharkhand:** Bidder should have the average Annual Turnover of 10% of Bidding Capacity derived from the last three financial years ending on 31.03.2021 on the basis of audited annual accounts
- **For New MSEs of Jharkhand:** Financial Soundness Certificate issued from Bank is required not less than 10% of Project Cost / Quoted Quantity Cost.
- The bidder should have positive net worth in the last three years, ending 31st March of the previous Financial Year.
- Bidders shall furnish documentary evidence as per the **Performa-2**, duly certified by Authorized Signatory and the Statutory Auditor / Practicing Chartered Accountant of the Bidding Company in support of their financial capability. Bidder is also required to submit the documentary proof like Balance sheet along with CA certificate of Turnover. Unaudited balance sheet should not be accepted. Turnover of bidder company will be accepted only. Balance Sheet of Bidders will be required as per the latest guidelines of Ministry of Finance (GOI).

**E. AMENDMENT TO RfP**

- At any time prior to the deadline for submission of Bids, the JREDA may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFS document by issuing clarification(s) and/or amendment(s).
- JREDA will not bear any responsibility or liability arising out of non-receipt of the information regarding Amendments in time or otherwise. Bidders must check the website for any such amendment before submitting their Bid .
- Corrigendum / Addendum / Corrections, if any will be published on the e-tender website and no separate notices shall be issued

**F. SUBMISSION OF BIDS**

- a. The bidder shall upload the bids as per formats on or before the date and time notified in this document/ NIT.
- b. Bids shall be uploaded in two parts.
- c. Part – I Techno Commercial Bid
- d. Part – II Price Bid.
- e. It should be clearly noted that Part –I should not contain any price bid.

- f. Part-I containing of those bidders who satisfy the requirement of bid security deposit will only be opened at the time & date notified for opening. If any bidder indicates the price in Part-I i.e techno commercial bid , the bid will not be read out and bid would stand rejected. Part II containing will not be opened at the time of opening Part-I. The bidders who do not qualify in Part –I, their bid of Part –II (Price Bid) shall not be opened.
- g. The Bidder shall submit complete e-bid through e-tender at website <http://jharkhandtenders.gov.in>
- h. Bids shall remain valid for the period 90 days after the date of bid opening prescribed by the Purchaser for the purpose of evaluation. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive

#### **G. Earnest Money Deposit**

- The Earnest Money Deposit is required to protect the Purchaser against risk of Bidder;s conduct which would warrant the security’s forfeiture.
- The earnest Money Deposit of Rs. 1,00,000/- (Rs. One Lacs only) shall be submitted at JREDA in the form of Bank Guarantee (BG) or Demand Draft (DD). Original copy of EMD shall be submitted at JREDA.
- Any bid not secured in accordance with above EMD will be rejected by the Purchaser as non-responsive.
- Unsuccessful Bidder’s Earnest Money Deposit will be discharged/returned as promptly as possible but not later than thirty (30) days after the expiration period of bid validity prescribed by the purchaser.
- The Earnest Money Deposit may be forfeited:
  - a) if a Bidder:
    - I. withdraws its bid during the period of bid validity specified by the Bidder
    - II. does not accept the correction of errors
  - b) in case of a successful Bidder, if the Bidder fails
    - i. to sign the Contract in accordance or
    - ii. to furnish performance security.

In the event, bidders are not able to sign PPA with the consumer of JBVNL in Municipal area of Giridih within the timeline as stipulated in the RfS for the selected Projects, JREDA shall have the right to encash the EMD/PBG submitted by the Bidder and return the balance amount (if any) for the value of EMD pertaining to unsuccessful capacity.

PBG of bidders successful bidders will be returned within 30 days after successful completion/Commissioning of the allotted quantity.

#### **Deadline for Submission of Bids**

- Bids must be submitted through e-tendering process in time and date as mentioned in NIT.
- The Purchaser may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

#### **H. Late Bids**

After the deadline for submission of bids as mentioned in NIT, any bid shall not be received by the e-tender system and no physical bids will be accepted.

#### **I. . Modification and Withdrawal of Bids**

- No bid can be modified subsequent to the deadline for submission of bids.
- No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its EMD.

**J. Opening of Bids by Purchaser**

- I. The Purchaser will open e-Technical bids, in the presence of Bidders' representatives who choose to attend, at the time, on the date, and at the place specified in DNIT.
- II. Bids that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances.
- III. The technical e-bids shall be evaluated by the purchaser for assessing responsiveness, bidders qualification and technical confirmation.
- IV. The bidders whose technical bids are declared as technically responsive and qualified shall be informed accordingly and their Price Bids shall be opened.
- V. The bidders whose technical bids do not qualify, their Price Bids shall not be opened.
- VI. Price Bids opening date shall be conveyed subsequently on e-tendering website.

**K. Evaluation of Financial Bids**

The evaluation of Price Bid shall be carried out based on the information furnished in the uploaded E-Price Bid. The Price Bid submitted by the Bidders shall be scrutinized to ensure conformity with the DNIT. Any Bid not meeting any of the requirements of this DNIT may cause the Bid to be considered "Non-responsive" at the sole decision of the JREDA. The Price bids for the each category shall be evaluated separately

**L. LEVELLIZED TARIFF**

- i. The Levellized Tariff of 25 years shall include all the costs related to above Scope of Work. Bidder shall quote for the entire facilities on a "single responsibility" basis such that the total Bid Price covers all the obligations mentioned in the Bidding Documents in respect of Design, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance for a period of 25 years, goods and services including spares required if any during O&M period. The Bidder has to take all permits, approvals and licenses, Insurance etc..
- ii. The Levellized tariff for 25 years shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work. No escalation will be granted for any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.
- iii. The Levellized tariff for 25 years shall be inclusive of all duties and taxes, insurance etc. The prices quoted by the firm shall be complete in all respect and no price variation /adjustment shall be payable
- iv. The operation & maintenance of Solar Photovoltaic Power Plant would include wear, tear, overhauling, machine breakdown, insurance, and

- replacement of defective modules, invertors, spares, consumables & other parts for a period of 25 years.
- v. The Levellized tariff for 25 years shall be specified in sanction letter based on Successful Bidder's quote @Rs/kWh for each project.
  - vi. The bidder may quote levellized tariff for each category i.e. 10 - 50KWp; >50-100 KWp; >100-200 KWp ,> 200 -500 KW, >500-1000 KWp. The bidder may quote for the categories of his choice and there is no compulsion that they should quote for all categories. The Bidder shall complete the Price Bid for different categories of projects.
  - vii. After completion of 25 years, the plant shall be handed over to the user department in operational condition with the power output as per MNRE specifications (i.e. minimum 80% power output of the modules at the end of 25th year) without any charges

#### **M. SUCCESSFUL BIDDER(S) SELECTION**

- i. Levellised Tariff requirement quoted in all Price Bids of Qualified Bidders shall be ranked from the lowest to the highest.
- ii. Based on the price bid quoted by the bidders, JREDA shall arrange the bids in the ascending order i.e. L1, L2, L3, .. (L1 being the lowest levellized tariff) for each category.
- iii. Lowest bidder will be declared as the successful bidder. The other bidder i.e L 2,L 3 and L 4 or further to complete the plant will be asked to match the price quoted by the L1 bidder. **The bidder who matches the L1 price will also be declared Successful bidder. All the qualified bidders i.e upto L4 and if needed further bidder except the L1 bidder will be given 10 days from the date of notification of L1 price on JREDA website and through email to bidder to give their consent to** execute the work at L1 price failing which it will be assumed that they are not interested to match L1 price. and their capacity shall be allocated to the other successful bidder(s) who wish to match the same. JREDA as its sole discretion may increase the timeline as indicated above.
- iv. There shall be no negotiation on the quoted levellized tariff between the JREDA and the Bidder(s), during the process of evaluation.
- v. The Letter(s) of Allocation (LOA) shall be issued to all such Successful Bidders(s).
- vi. Each Successful Bidder shall acknowledge the LOA and return duplicate copy with signature of the authorized signatory of the Successful Bidder to the JREDA within Ten (10) days of issue of LOA.
- vii. If the Successful Bidder, to whom the Letter of Allocation has been issued, does not fulfill any of the conditions specified in Bid document, the JREDA reserves the right to annul/cancel the award of the Letter of Allocation of such Successful Bidder.
- viii. The JREDA at its own discretion, has the right to reject any or all the Bids without assigning any reason whatsoever, at its sole discretion

#### **N. INSURANCE**

The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The bidder shall also take appropriate insurance during

O&M period.

#### **O. WARRANTIES AND GUARANTEES**

The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide system warranty covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts. The responsibility of operation of Warranty and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be joint responsibility of the Successful bidder and the owner of the project and JREDA will not be responsible in any way for any claims whatsoever on account of the above

#### **P. METERING AND GRID CONNECTIVITY**

Metering and grid connectivity of the roof top solar PV system under this scheme would be the responsibility of the Bidder in accordance with the prevailing guidelines of the concerned DISCOM and / or CEA (if available by the time of implementation). The expenditure of metering will be born by bidder. The user department has to complete all the documentation as per requirement for installation of Net Meter, connectivity and other equipment for the GCRT Solar Power Plant. JREDA may facilitate in technical guidance; however the entire responsibility lies with bidder only

#### **Q. FORCE MAJEURE**

- i. Notwithstanding the provisions of clauses contained in this RFS document; the contractor shall not be liable to forfeit (a) PBG for delay and (b) termination of contract; if he is unable to fulfill his obligation under this contract due to force majeure conditions.
- ii. For purpose of this clause, "Force Majeure" means an event beyond the control of the contractor and not involving the contractor's fault or negligence and not foreseeable, either in its sovereign or contractual capacity. Such events may include but are not restricted to Acts of God, wars or revolutions, fires, floods, epidemics, quarantine restrictions and fright embargoes etc. Whether a "Force majeure" situation exists or not, shall be decided by JREDA/ user department and its decision shall be final and binding on the contractor and all other concerned.

- iii. In the event that the contractor is not able to perform his obligations under this contract on account of force majeure, he will be relieved of his obligations during the force majeure period. In the event that such force majeure extends beyond six months, JREDA/ Owner has the right to terminate the contract in which case, the PBG shall be refunded to him.
- iv. If a force majeure situation arises, the contractor shall notify JREDA & Owner in writing promptly, not later than 14 days from the date such situation arises. The contractor shall notify JREDA & Owner not later than 3 days of cessation of force majeure conditions. After examining the cases, JREDA & Owner shall decide and grant suitable additional time for the completion of the work, if required.

**R. SETTLEMENT OF DISPUTE / ARBITRATION**

If any question, dispute or difference whatsoever shall arise between user department and the contractor, in the connection with this agreement except as to matters, the decisions for which have been specifically provided, either party may forthwith give to the other notice in writing of existence of such question, dispute or difference and the same shall be referred to the sole arbitration of the Director of JREDA or a person nominated by him. This reference shall be governed by the Indian Arbitration Act, and the rules made there under. The award in such arbitration shall be final and binding on both the parties. Work under the agreement shall be continuing during the arbitration proceedings unless the User Department or the arbitrator directs otherwise

**S. COMMISSIONING /COMPLETION CERTIFICATE:**

i. Application for completion/ commissioning certificate:

When the Successful bidder fulfils his obligation under the Contract, he shall be eligible to apply for Completion Certificate. The JREDA or his representative shall normally issue to the Successful bidder the Completion Certificate within one month after receiving any application therefore from the Successful bidder after verifying from the completion documents and satisfying himself that the Work has been completed in accordance with and as set out in Contract documents.

ii. Document Submission For issue of Commissioning/Completion Certificate:  
For the purpose of completion of the project, the following documents will be deemed from the contractor:

a. Checklist for inspection of Roof top SPV power plants as per JREDA format.

b. Joint Commissioning Report signed by roof top owners/user department, project developers & Representative of JREDA as per JREDA format.

## **SECTION III**

### **3. SCHEDULE OF REQUIREMENTS**



**The illustrative Schedule of requirements is in accordance with the specifications contained in this document**

	<b>Brief Description</b>	<b>Unit</b>	<b>Make</b>
1.	SPV modules for a total capacity as per specifications.	1 Set	Compliant to bid document spec's As per IEC 61215 2 <sup>nd</sup> edition and MNRE, GOI latest specifications /standards
2.	SPV module roof top mounting structure suitable for accommodating SPV modules including foundation as per specifications on rooftop.	1 Set	As per specification
3.	Inverter as per specifications	As spec. per	Compliant to bid document spec's. As per IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std
4.	Complete Data Logging system	1 set	As per Specification
5.	Array Junction Boxes	1 Set	As per MNRE latest standards GOI
6.	Main Junction Boxes	1 Set	As per MNRE latest standards GOI
7.	DC Distribution Switchgear units as per specifications	1 set	As per MNRE latest standards GOI
8.	AC Distribution Switchgear units as per Specifications	1 Set	As per MNRE latest standards GOI
9.	DC Cable requirement as per design	As required at site for full plant commissioning	As per MNRE latest standards GOI
10.	AC Cable requirement as per design	As required at site for full plant commissioning	As per MNRE latest standards GOI
11.	Lightning arrester complete set as per Specification	1 Set	
12.	Earthing complete 3 numbers as per Specification	1 Set	3 Numbers
13.	Any other equipment required to complete the installation		

14.	Civil work and array structures: complete design, construction of array support structures on the roof top.	As per design submitted by supplier and approved by purchaser
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## SECTION IV

### 4. TECHNICAL SPECIFICATIONS

### **General Description**

The power plant shall provide a reliable and independent power supply to the critical AC loads in the Building. The power plant shall have a provision to export the excess power generated to the grid and shall have a provision to import power from grid for localized use in case of load exceeding the PV generation. The Inverter shall be designed to convert DC power produced by SPV modules, in to AC power and adjust the voltage & frequency levels to suit the grid voltage & frequency.

A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

Solar PV system shall consist of following equipments/components.

- Solar PV modules consisting of required number of Crystalline PV modules.
- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Mounting structures
- Junction Boxes.
- Earthing and lightning protections.

- IR/UV protected PVC Cables, pipes and accessories

## **1. Solar Photovoltaic Modules**

(A) Indigenous make only

**1.1.** The PV modules should be made in India.

**1.2.** The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-2- requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.

a) For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701

b) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 250 Wp and above wattage. Module capacity less than minimum 250 watts should not be accepted. The efficiency of the modules should not be less than 16%.

c) Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.

d) PV modules must be tested and approved by one of the IEC authorized test centers.

e) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminum.

f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his work order.

g) Other general requirement for the PV modules and subsystems shall be the Following:

l. The rated output power of any supplied module shall have tolerance of +/-3%.

II. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

III. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.

IV. IV curves at STC should be provided by bidder.

4.1.2 Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each modules (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).

- a) Name of the manufacturer of the PV module
- b) Name of the manufacturer of Solar Cells.
- c) Month & year of the manufacture (separate for solar cells and modules)
- d) Country of origin (separately for solar cells and module)
- e) I-V curve for the module Wattage,  $I_m$ ,  $V_m$  and FF for the module
- f) Unique Serial No and Model No of the module
- g) Date and year of obtaining IEC PV module qualification certificate.
- h) Name of the test lab issuing IEC certificate.
- i) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001

14.1.3. Warranties:

- a) Material Warranty:

i. Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than five (05) years from the date of sale .

ii. Defects and/or failures due to manufacturing

iii. Defects and/or failures due to quality of materials

iv. Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option

b) Performance Warranty:

The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power over the 25 year period and not more than 10% after ten years period of the full rated original output.

## **2. ARRAY STRUCTURE**

a) Hot dip galvanized MS mounting structures may be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum insolation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.

b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed (like Delhi-wind speed of 150 KM/ hour). It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to JREDA. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.

c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.

d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.

e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels

f) Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.

g) The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m<sup>2</sup>.

h) The minimum clearance of the structure from the roof level should be 300 mm.

i) No damage in any way should be caused to the roof of the building while installation of SPV Power Plant. If any damage done it will wholly be the responsibility of the bidder and cost shall be recovered from the bidder. To avoid any problem the system of fixing of panel structure shall be got approved. Detailed design and Drawing shall have to submit to JREDA for acceptance and approval before execution of work.

**NOTE:** The structural design of the complete system should be compatible with the structural strength and load bearing capacity of the roof, design calculations and certificate to this effect shall be provided by a qualified chartered structural engineer.



### **3. JUNCTION BOXES (JBs)**

a) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminum /cast aluminum alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.

b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.

c) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.

d) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification

### **4. DC DISTRIBUTION BOARD:**

e) DC Distribution panel to receive the DC output from the array field.

f) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

### **5. AC DISTRIBUTION PANEL BOARD:**

g) AC Distribution Panel Board (DPB) shall control the AC power from PCU/

inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.

h) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.

i) The changeover switches, cabling work should be undertaken by the bidder as part of the project.

j) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz .

e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.

f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.

g) Should conform to Indian Electricity Act and rules (till last amendment).

h) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Variation in supply voltage	+/- 10 %
Variation in supply frequency	+/- 3 Hz

**6. PCU/ARRAY SIZE RATIO:**

a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.

- b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

## 7. PCU/ Inverter:

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the “Power Conditioning Unit (PCU)”. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive, If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as under:-

Switching devices	IGBT
Control	Microprocessor / DSP
Nominal AC output voltage and frequency	415V, 3 phase, 50 Hz
Output Frequency Synchronization range	+ 3 Hz or more
Ambient temperature considered	- 20 C <sub>o</sub> to 50 C <sub>o</sub>
Humidity	95% Non-condensing
Protection of Enclosure	IP-20 (minimum) for indoor IP-65(minimum) for outdoor
Grid Frequency Tolerance range	+ 3 or more
Grid Voltage Tolerance	- 20% & + 15%
No-load losses	Less than 1% of rated power
Inverter efficiency (minimum)	>95% ( in case of 10kW or above)
Inverter efficiency (minimum)	>93% ( in case of less than 10kW )
THD	< 3%
PF	>0.9

- a) Three phase PCU/ inverter shall be used with each power plant system
- b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.

- c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
- d) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
- e) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std.
- f) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.
- g) The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

## **8. INTEGRATION OF PV POWER WITH GRID:**

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

### **8.1 Technical and interconnection requirements**

Overall conditions of service	State Distribution/Supply Code	State Distribution/Supply Code
Overall Grid	Central Electricity Authority (Grid	Central Electricity Authority (Grid Standard)
Standards	Standard) Regulations 2010	Regulations 2010
Equipment	BIS / IEC / IEEE	BIS / IEC / IEEE
Meters	Central Electricity authority (Installation & operation of meters) Regulation 2006 as amended time to time	Central Electricity authority (Installation & operation of meters) Regulation 2006 as amended time to time
Safety and supply	Central Electricity Authority(measures of safety and electricity supply) Regulations, 2010	Central Electricity Authority(measures of safety and electricity supply) Regulations, 2010
Harmonic	IEEE 519 CEA (Technical	IEEE 519 CEA (Technical Standards for
Requirements	Standards for Connectivity of the	Connectivity of the Distributed Generation
Harmonic Current	Distributed Generation Resources) Regulations 2013	Resources) Regulations 2013
Synchronization	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Photovoltaic system must be equipped with a grid frequency synchronization device. Every time the generating station is synchronized to the electricity

		system. It shall not cause voltage fluctuation greater than +/- 5% at point of connection.
Voltage	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The voltage-operating window should minimize nuisance tripping and should be under operating range of 80% to 110% of the nominal connected voltage. Beyond a clearing time of 2 second, the photovoltaic system must isolate itself from the grid.
Flicker	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Operation of Photovoltaic system should not cause
Frequency	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	When the Distribution system frequency deviates outside the specified conditions (50.5 Hz on upper side and 47.5 Hz on lower side), There should be over and under frequency trip functions with a clearing time of 0.2 seconds.

DC injection	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Photovoltaic system should not inject DC power more than 0.5% of full rated output at the interconnection point or 1% of rated inverter output current into distribution system under any operating conditions.
Power Factor	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	While the output of the inverter is greater than 50%, a lagging power factor of greater than 0.9 should operate.
Islanding and	IEEE 519 CEA (Technical	The photovoltaic system in the event of fault,
Disconnection	Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	voltage or frequency variations must island/disconnect itself within IEC standard on stipulated period.
Overload and Overheat	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013.	The inverter should have the facility to automatically switch off in case of overload or overheating and should restart when normal conditions are restored.
Paralleling Device	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013.	Paralleling device of photovoltaic system shall be capable of withstanding 220% of the normal voltage at the interconnection point.

#### DATA ACQUISITION SYSTEM / PLANT MONITORING

- i. Data Acquisition System shall be provided for each of the solar PV plant.
- ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
- iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system

v. The following parameters are accessible via the operating interface display in real time separately for solar power plant:

a. AC Voltage.

b. AC Output current.

c. Output Power

d. Power factor.

e. DC Input Voltage.

f. DC Input Current.

g. Time Active.

h. Time disabled.

i. Time Idle.

j. Power produced

k. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage).

vi. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing .

vii. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class.

viii. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or

separately.

- ix. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
- x. Computerized AC energy monitoring shall be in addition to the digital AC energy meter.
- xi. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
- xii. All instantaneous data shall be shown on the computer screen.
- xiii. Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- xiv. Provision for Internet monitoring and download of data shall be also incorporated.
- xv. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
- xvi. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.
- xvii. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- xviii. Remote Monitoring and data acquisition through Remote Monitoring



System software location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier.

- xix. Energy Meter: The solar generation meter and Bi-directional meter along with CT/PT (if required) with Surge Protection Device (SPD) should be of as per PSPCL guidelines and is in the scope of bidder.

## **9. POWER CONSUMPTION:**

- a) Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid.

## **PROTECTIONS**

The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows:-

### **9.1. LIGHTNING PROTECTION**

The SPV power plants shall be provided with lightning & over voltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

### **9.2. SURGE PROTECTION**

Internal surge protection shall consist of three MOV type surge-arrestors

connected from +ve and –ve terminals to earth (via Y arrangement)

### **9.3. EARTHING PROTECTION**

i. Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lighting arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of JREDA as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.

**9.4.** Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

### **GRID ISLANDING:**

i. In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as “islands.” Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

i. A manual disconnect 4 pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel

### **10. CABLES**

Cables of appropriate size to be used in the system shall have the following

characteristics:

- i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards
- ii. Temp. Range: –10oC to +80oC.
- iii. Voltage rating 660/1000V
- iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- v. Flexible
- vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use.
- vii. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified.
- viii. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years.
- ix. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons. All cable schedules/layout drawings approved prior to installation.
- x. Multi Strand, Annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BoS item /

component Standard.

Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V ,UV resistant for outdoor installation IS /IEC 69947.

- xi. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%.
- xii. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.

### **11. DANGER BOARDS AND SIGNAGES:**

Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. Three signage shall be provided one each at battery –cum- control room, solar array area and main entry from administrative block.

### **12. FIRE EXTINGUISHERS:**

The firefighting system for the proposed power plant of capacity above than 25 kw for fire protection shall be consisting of:

- a) Portable fire extinguishers in the control room for fire caused by electrical short circuits
- b) Sand buckets in the control room
- c) The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

### **13. DRAWINGS & MANUALS:**

- i Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data

sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.

- i. Approved ISI and reputed makes for equipment be used.
- ii. For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to JREDA before progressing with the installation work

#### **14. DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT**

- i. The Contractor shall furnish the following drawings Award/Intent and obtain approval
- ii. General arrangement and dimensioned layout
- iii. Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- iv. Structural drawing along with foundation details for the structure.
- v. Itemized bill of material for complete SV plant covering all the components and associated accessories.
- vi. Layout of solar Power Array
- vii. Shadow analysis of the roof

#### **15. SAFETY MEASURES:**

The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.

#### **16. QUALITY AND ADAPTABILITY OF THE EQUIPMENT:**

Bidders must verify the grid behavior, solar insolation levels, general site conditions on their own before bidding, the bidder shall accordingly ensure that the equipment and the design submitted, shall be able to perform as per guaranteed performance levels in the available site conditions. The design of

the plant and the equipment offered by the bidders shall be evaluated for its quality and adaptability to the site conditions based on the purchasers past experience, projects earlier executed by the bidders and from other sources. Bidders must submit detailed technical operational parameters and latest plant performance indicators and status complete with the clients address and contact no's. with regard to projects of similar nature already executed.

## **SECTION V**

### **5. Bid Form and other Formats**

## **Annexure-I**

### **LIST OF DOCUMENTS TO BE ENCLOSED WITH THE BID.**

#### **i) Part-I-Techno-commercial Bid**

The Techno-commercial bid Part-I of tender shall be furnished complete in all respects and documents mentioned therein including the scanned copies of the following documents should be submitted.

- a) Forwarding letter
- b) Power of attorney for authorized signatory to sign the documents.
- d) Non debaring/black listing certificate.
- e) Copies of IEC certification of Modules,inverter,cablesetc
- f) Bid document cost 5 000/-.
- g) Bid processing fee 2247/-.
- h) Earnest money deposit of Rs. 200000/-
- j) Photocopies of satisfactory performance reports of systems supplied to state nodal agencies/ Govt. departments and other organizations
- k) Annual turnover along with CA certificate
- l) Balance Sheet and CA certificate of last three years from 1.4.2015 or 1.4.2016 onwards.
- m) Company registration Certificate
- n) Any other documents/formats required as per bid document



## **ANNEXURE-II:**

### **DOCUMENTS REQUIRED FOR PROJECT SANCTION**

Following documents will be required to be submitted for project sanction:

1. Project Report (Project report should contain the following )

- Context / background / Introduction
- Project objectives
- Project strategy / Approach of work & methodology
- Site details including photographs with date & time stamping
- Solar resource assessment
- Technology selection (Module, Inverter and BOS)
- Design, Simulation, BOM and layout of SPV plant
- Grid connectivity and metering scheme
- Means of financing and project budget
- Time frame / schedule of implementation

2. Agreement between the bidder and the owner of the Project and Building/Roof top (Notarised original agreement on stamp paper of appropriate value should be enclosed).

3. No Objection Certificate from the **JBVNL** for grid connectivity. (Not mandatory during project identification, however mandatory for project commissioning/operation).

4. Any other document as requested by SNA i.e JREDA at the time of issue of LOA.

**PERFORMA-I (DECLARATION BY THE BIDDER**

**(To be submitted on letter head of Bidder)**

**Ref.No.\_\_\_\_\_Date:\_\_\_\_\_**

**From:\_\_\_\_\_ (name and address of Bidding Company)**

**To**

Director,  
Jharkhand Renewable Energy Development Agency(JREDA)  
3rd Floor, SLDC Building, Kusai, Doranda,  
Ranchi- 834002 (Jharkhand)

**Sub: Bid for “Empanelment of Agencies for Design, Manufacture, Testing, Supply, Installation & Commissioning of Grid connected Rooftop SPV Power Plants of different capacities including five years Comprehensive Maintenance Contract (CMC) through RESCO Mode on Turnkey basis for Commercial Electricity Consumers to Giridih Municipal Area under Solar City Scheme”**

Reference: 41/JREDA/SOLARCITY/RESCO/22-23

Dear Sir,

We, the undersigned.....[name of the 'Bidder'] having read, examined and understood in detail the Document for Implementation of Grid connected Roof Top Solar PV System Scheme hereby submit our Bid comprising of Price Bid and Techno Commercial Bid. We confirm that neither we nor any of our Parent Company has submitted Bid other than this Bid directly or indirectly in response to the aforesaid document.

We give our unconditional acceptance to the RFS/DNIT and Documents attached thereto, issued by JREDA , as amended. As a token of our acceptance to the RFS Documents, the same have been initialed by us and enclosed to the Bid. We shall ensure that we execute such RFS Documents as per the provisions of the RFS and provisions of such RFS Documents shall be binding on us.

1. Bid Capacity :

The bid is submitted for the capacity of \_\_\_\_\_MWp.

2. We have deposited a EMD of Rs... (Insert Amount)

3. We have submitted our Price Bid strictly as per requirement of RFS, without any deviations, conditions and without mentioning any assumptions or notes for the Price Bid in the said format(s).

#### 4. Acceptance

We hereby unconditionally and irrevocably agree and accept that the decision made by JREDA in respect of any matter regarding or arising out of the RFS shall be binding on us. We hereby expressly waive any and all claims in respect of Bid process.

We confirm that there are no litigations or disputes against us, which materially affect our ability to fulfill our obligations with regard to execution of projects of capacity offered by us.

#### 5. Familiarity with Relevant Indian Laws & Regulations

We confirm that we have studied the provisions of the relevant Indian laws and regulations as required to enable us to submit this Bid and execute the RFS Documents, in the event of our selection as Successful Bidder. We further undertake and agree that all such factors as mentioned in RFS have been fully examined and considered while submitting the Bid.

#### 6. Contact Person

Details of the : .....  
contact person are .....  
furnished as .....  
under: .....

Name

Designation : .....  
.....  
.....

Company : .....  
.....  
.....

Address : .....

Phone Nos.

:

.....  
.....  
.....  
.....  
.....  
.....

Fax Nos.

:

.....  
.....  
.....  
.....

E-mail address

.....  
.....

**PERFORMA-II**

**INFORMATION IN SUPPORT OF MEETING ESSENTIAL ELIGIBILITY CONDITIONS REGARDING AVERAGE ANNUAL TURNOVER OF THE BIDDER IN LAST THREE FINANCIAL YEAR ENDING 31.3.2018 OR 31.3.2019**

**Annual turnover of the bidder in last three financial year:**

Name of the company: - .....

Annual turnover data for past three years				
Sr. NO.	FINANCIAL YEAR	Turnover (Rs. In Lacs)	Profit	loss
1				
2				
3				
	Average turnover in last three years : (1+2+3)/3			

**PERFORMA-III**

**POWER OF ATTORNEY**

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

(a) Power of Attorney to be provided by the Bidding Company in favour of its representative as evidence of authorized signatory's authority.

Know all men by these presents, We

.....

(name and address of the registered office of the Bidding Company as applicable) do hereby constitute, appoint and authorize Mr./Ms. .... (name& residential address) who is presently employed with us and holding the position of..... as our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid for implementation of grid connected Roof top solar PV Project in the State of Haryana in response to the NIT No..... dated ..... issued by JREDA, including signing and submission of the Bid and all other documents related to the Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document which the JREDA may require us to submit. The aforesaid Attorney is further authorized for making representations to the JREDA and providing information / responses to JREDA, representing us in all matters before JREDA and generally dealing with JREDA in all matters in connection with Bid till the completion of the bidding process as per the terms of the above mentioned NIT. We hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the NIT.

Signed by the within named

..... (Insert the name of the executant  
company)

through the hand of

Mr. ....

duly authorized by the Board to issue such Power of Attorney

Dated this ..... day of .....

Accepted

.....

Signature of Attorney

(Name, designation and address of the Attorney)

PERFORMA-IV

**PRICE BID FOR RESCO**

Following is our tariff for a period of 25 years from the date of commissioning of the project:

Name of Bidder:-

Category of Solar Plant	Capacity Range	LevellizedTariff for 25 years, including all taxes, duties & charges (Rs./kWh) In Figures *	LevellizedTariff for 25 years, including all taxes, duties & charges (Rs./kWh) In Words
I	1 KWp to 50 KWp	*	
II	More than 50 KWp to 1000 KWp	*	

Note:

a. The levellized tariff shall be up to two decimal places only be accepted.

**\*This Proforma not to be filled and submitted along with technical bid. It is for reference only**



Performa-V

ELIGIBILITY CRITERIA FOR EXPERIENCE – SOLAR SYSTEMS/ PROJECTS  
COMMISSIONED IN LAST THREE YEARS ENDING ON 31ST MARCH, 2019

Name of Bidder/company

Quantity/ capacity Qoutedby the bidder: ..... KW

S.No	Name of Customer	Capacity of GCRT solar power plant commissioned	Date of commissioning of system	Copy of Joint Commissioning Report

Signature with seal of bidder

Note:

Bidder must attach copies of JCRs. JCRs may be got verified by the SNA/any govt. agency. JCR not verified by SNA/any govt. agency will not be considered. Only commissioning report shall be uploaded, no work orders shall be uploaded.

## Performa VI

### FORMAT FOR PERFORMANCE BANK GUARANTEE (PBG)

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

In consideration of the [Insert name of the Bidder] (hereinafter referred to as selected Successful Bidder(SB)) submitting the response to RfS inter alia for selection of the Project for the capacity of ..... MW in the state .....[Insert name of the state] under Roof Top scheme in response to the RfS No \_\_\_\_\_ dated..... issued by JREDA (hereinafter referred to as [NAME OF THE ORGANISATION]) and [NAME OF THE ORGANISATION] considering such response to the RfS of .....[insert the name of the Successful Bidder] (which expression shall unless repugnant to the context or meaning thereof include its executers, administrators, successors and assignees) and selecting the Solar Power Project of the Solar Power Developer and issuing Letter of allocation No ----- to----- (insert the name of the Successful Bidder(SB)) as per terms of RfS and the same having been accepted by the selected SB or a Project Company, M/s ----- . As per the terms of the RfS, the ..... [insert name & address of bank] hereby agrees unequivocally, irrevocably and unconditionally to pay to JREDA at --- -- [Insert Name of the Place from the address of the [NAME OF THE ORGANISATION]] forthwith on demand in writing from JREDA or any Officer authorised by it in this behalf, any amount upto and not exceeding Rupees----- [Total Value] only, on behalf of M/s ----- Bidder(SB)/ Project Company] [Insert name of the selected Successful]

This guarantee shall be valid and binding on this Bank up to and including.....[insert date of validity in accordance with this RfS]. and shall not be terminable by notice or any change in the constitution of the Bank or the term of contract or by any other reasons whatsoever and our liability hereunder shall

not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to Rs. (Rs.....only).

Our Guarantee shall remain in force until.....[NAME OF THE ORGANISATION] shall be entitled to invoke this Guarantee till .....

The Guarantor Bank hereby agrees and acknowledges that JREDA shall have a right to invoke this BANK GUARANTEE in part or in full, as it may deem fit.

Tender for Grid Connected Solar Rooftop System for commercial electricity consumers under RESCO Route.

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand by JREDA, made in any format, raised at the above-mentioned address of the Guarantor Bank, in order to make the said payment to JREDA.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by -----[Insert name of the Successful Bidder(SB)/ Project Company as applicable] and/or any other person. The Guarantor Bank shall not require JREDA to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against JREDA in respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Chandigarh shall have exclusive jurisdiction.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the Guarantor Bank.

This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly JREDA shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Successful Bidder(SB) / Project Company , to make any claim against or any

demand on the Successful Bidder(SB)/ Project Company or to give any notice to the Successful Bidder(SB)/ Project Company or to enforce any security held by JREDA or to exercise, levy or enforce any distress, diligence or other process against the Successful Bidder(SB)/ Project Company .

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. (Rs. only) and it shall remain in force until ..... We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if JREDA serves upon us a written claim or demand.

Signature

Name

Email ID

For [Insert Name of the Bank]

Banker's Stamp and Full Address. Dated this day of , 20

Witness:

1. ....

Signature

Name and Address

2. ....

Signature

Name and Address

Notes:

1. The Stamp Paper should be in the name of the Executing Bank and of appropriate value.
2. The Performance Bank Guarantee(PBG) shall be executed by any of the National Bank situated in India

Performa VII

**DRAFT (on the basis of SECI)**

**POWER PURCHASE AGREEMENT  
FOR  
DESIGN, MANUFACTURER, SUPPLY, ERECTION, TESTING  
AND COMMISSIONING INCLUDING WARRANTY, OPERATION  
& MAINTENANCE OF \_\_\_KWP AND ROOF-TOP SOLAR PV  
POWERSYSTEM**

**AT**

---

**BETWEEN ROOFTOP OWNER**

**AND**

---

## **TABLE OF CONTENTS**

<b>S.No.</b>	<b>Description</b>	
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2	Effective Date	
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6	Delivery of Solar Power	
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This Power Purchase Agreement is executed on \_\_\_\_th day of \_\_\_\_ 2019

At Chandigarh Between

....., ("ROOFTOP OWNER") – (Designation and Address)  
.....(hereinafter referred to as "Purchaser")

AND

M/s(Name of Power Producer)(CIN No. \_\_\_\_\_), a company incorporated under the Companies Act, 1956 having its registered office at (complete address) (hereinafter referred to as "Power Producer" which expressions shall, unless repugnant to the meaning or context hereof, be deemed to include its successors and assigns)

This Power Purchase Agreement is executed on (date), .....

Between

.....Department ("ROOFTOP OWNER").....,(detail address),  
(hereinafter referred to as "Purchaser")

AND

M/s(NameofPowersProducer)(CINNo. \_\_\_\_\_), a company incorporated under the Companies Act, 1956 having its registered office at (detail address) (hereinafter referred to as "Power Producer" which expressions shall, unless repugnant to the meaning or context hereof, be deemed to include its successors and assigns)

The ROOFTOP OWNER and Power Producer are each individually referred to as a "Party" and collectively as the "Parties".

WHEREAS:

- a. The Power Producer has been notified as successful bidder by JREDA ("JREDA") for "Design, Manufacture, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance of KWp Rooftop Solar PV System at (building name)" (Project) and as per Technical Specification & other details of RFS  
The Power Producer is engaged in the business of building and operating power plants, including grid connected rooftop power projects.
- B. The Power .Producer has agreed to install and operate a solar photovoltaic power plant of ...KWp capacity at the Premises after due inspection of the Premises as defined hereinafter and supply the entire Solar Power of the Project to Purchaser on the terms and conditions contained in this Agreement.
- C. The Purchaser has agreed to purchase the entire Solar Power of the Project on the terms and conditions contained in this Agreement.

NOW THEREFORE in consideration of the mutual promises, conditions and covenants set forth herein, the Parties hereby agree as below:



## 1. Definitions and Interpretation

### 1.1 Definitions

In addition to other capitalized terms specifically defined elsewhere in the Agreement or unless the context otherwise requires, the following words and phrases shall be defined as follows:

- (a) "Actual Monthly Production" means the amount of energy recorded by the Main Metering System during each calendar month of the Term, pursuant to Section 52;
- (b) "Affiliate" means with respect to any specified Person, any other Person directly or indirectly controlling, controlled by or under common control with such specified Person;
- (c) "Agreement" means this Power Purchase Agreement executed hereof, including the schedules, amendments, modifications and supplements made in writing by the Parties from time to time.
- (d) "Applicable Law" means, with respect to any Person, any constitutional provision, law, statute, rule, regulation, ordinance, treaty, order, decree, judgment, decision, certificate, holding, injunction, registration, license, franchise, permit, authorization, guideline, Governmental Approval, consent or requirement or any Governmental Authority in India having jurisdiction over such Person or its property, enforceable by law or in equity, including the interpretation and administration thereof 1:4 such Governmental Authority.
- (e) "Assignment" has the meaning set forth in Section 14.1;
- (f) "Business Day" means any day other than Sunday or any other day on which banks in Chandigarh are required or authorized by Applicable Law to be closed for business;
- (g) "Commercial Operation Date" has the meaning set forth in Section 43(b)
- (h) NOT USED
- (i) "Consents, Clearances and Permits" shall mean all authorization, licenses, approvals, registrations, permits, waivers, privileges, acknowledgements, agreements or concessions required to be

obtained from or provided by any concerned authority for the purpose of setting up of the generation facilities and / or supply of power:

- (j) NOT USED
- (k) "Deemed Generation" has the meaning set forth in Section 5.3(c)
- (l) "Delivery Point". shall be the single point, at a location mutually agreed by the Parties, in line with applicable regulation/rules where Solar Power is delivered by the Power Producer from the System to the Purchaser.
- (m) "Dispute" has the meaning set forth in Section 17.7(b);
- (n) "Disruption Period" has the meaning set forth in Section 5.3(c)
- (o) "Distribution Utility" means the local 'electric distribution owner and operator providing electric distribution and interconnection services to Purchaser at the Premises;.
- (p) "Due Date" has the meaning set forth. in Section 7.4;
- (q) "Effective Date" has the meaning set forth in Section 2
- (r) "Estimated Remaining Payments" means as of any date, the estimated remaining Solar Power Payments to be made through the end of the applicable Term, as reasonably determined by. the Power Producer in accordance with Section 7.1
- (s) "Expiration Date" means the date on which the Agreement terminates by reason of expiration of the Term.
- (t) "Force Majeure Event" has the meaning set forth in Section 11.1
- (u) "Governmental Approval" means any approval, consent, franchise, permit, certificate, resolution, concession, license or authorization issued by or on behalf of any applicable Governmental Authority for the purpose of setting up of the Project and/or for sale and purchase of Solar Power of the Project pursuant to the Agreement.
- (v) "Governmental Authority" means any central; state, regional, district, town, city, or municipal government, whether domestic or foreign, or any department, agency, bureau, or other administrative, regulatory or judicial body of any such government.

- (w) "Indemnified Persons" means the Purchaser Indemnified Parties or the Power Producer-indemnified Parties, as the context requires.
- (x) "Insolvency Event" means with respect to a Party, that either
- (i) Such party has (A) applied for or consented to the appointment of, or the taking of possession by, a receiver, custodian, trustee, administrator, liquidator or the likes of itself or of all or a substantial part of its assets or business; (B) been unable to pay its debts as such-debts become due; (C) made a general assignment for the benefit of its creditors, (D) commenced a voluntary proceeding under any insolvency or bankruptcy law; (E) filed a petition seeking to take advantage of any other law relating to the bankruptcy, insolvency, reorganization, winding up, or composition or readjustment of debts; or (F) taken any corporate or other action for the purpose of effecting any of the foregoing; or
  - (ii) It is clarified that a dissolution or liquidation will not be an Insolvency Event if such dissolution or liquidation is for the purpose of a merger, consolidation or reorganization, and the resulting company retains credit worthiness similar to the dissolved or liquidated entity and expressly assumes all obligations of the dissolved and liquidated entity under this Agreement and is in a position to perform them.
- (y) "Installation Work" means the construction and installation of the System and the Start-up, testing and acceptance (but not the operation and maintenance) thereof; all performed by or for the Power Producer at the Premises.
- (z) "Invoice Date" has the meaning set forth in Section 7.2.
- (aa) "Losses" means all losses, liabilities, claims, demands, suits, causes of action, judgments, awards, damages, cleanup and remedial obligations, interest, fines, fees, penalties, costs and expenses (including all attorneys' fees and other costs and expenses incurred in defending any such claims or other matters or in asserting or enforcing and indemnity obligation)

- (bb) "Main Metering System" means all meter(s) and metering devices owned by the Power Producer and installed at the Delivery point for measuring and recording the delivery and receipt of energy.
- (cc) "Metering Date" means the first Business day of each calendar month subsequent to the month in which the Solar Power is generated by the Power Producer. The billable units shall be equal to the difference between the meter reading on the Metering Date and the meter reading on the previous month's Metering Date.
- (dd) "Party" or "Parties" has the meaning set forth in the preamble to this Agreement.
- (ee) "Performance Ratio"
- (ff) "Person" means an individual, partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture, firm, or other entity, or a Governmental Authority.
- (gg) "Power Producer Default" has the meaning set forth in Section 12.1 (a).
- (hh) "Power Producer Indemnified" has the meaning set forth in Section 16.2.
- (i) "Premises" means the premises described in Schedule 1 to this Agreement. For the avoidance of doubt, the Premises include, the entirety of any and underlying real property located at the address described in Schedule 1 to this Agreement.
- (jj) "Purchase Date" means the date on which title to the System transfers to the Purchaser pursuant to the Purchaser exercising its purchase option under Section 3.2.
- (kk) "Purchase Price" means the fee payable by the Purchaser to the Power Producer under the circumstances described in Section 3.2.
- (ll) "Purchaser Default" has the meaning set forth in Section 12.2 (a).
- (mm) "Purchaser Indemnified Parties" has the meaning set forth in Section 16.1.
- (nn) "Representative" has the meaning set forth in Section 15.1.

- (oo) "Scheduled Complete Date" has the meaning set forth in Section 4.1(g)
- (pp) "NOT USED"
- (qq) "Selectee" means, a new company (i) proposed by the Lenders read with Schedule III hereof and approved by the Purchaser (ii) or proposed by the Purchaser in accordance with Schedule III hereof and approved by the Lenders, for substituting the Power Producer for the residual period of the Agreement by amendment of the Agreement or by execution of a fresh power purchase agreement in accordance with the terms and conditions contained in the said Schedule.
- (rr) "Solar Power" means the supply of electrical energy output from the System.
- (ss) "Solar Power Payment" has the meaning set forth in Section 7.1.
- (tt) "System" includes the integrated assembly of photovoltaic panels, mounting, assemblies, inverters, converters, metering, lighting fixtures, transformers, ballasts, disconnects, combiners, switches, wiring devices and wiring, and all other material comprising the Installation Work.
- (uu) "System Operations" means the Power Producer's operation, maintenance and repair of the System performed in accordance the requirement herein.
- (vv) "Tariff" means the price per kWh set forth in Schedule II hereto.
- (ww) "Term" has the meaning set forth in Section 3.1:
- (xx) "NOT USED"

## **1.2 interpretation**

- (a) Unless otherwise stated, all references made, in this Agreement to "Sections", "Clauses" and "Schedules" shall refer respectively to Sections, clauses and Schedules of this Agreement. The Schedules to this Agreement form an integral part of this Agreement and shall have effect as though they were expressly set out in the body of this Agreement.
- (b) In the Agreement, unless the context otherwise requires (i) words imparting singular connotations shall include plural and vice versa: (ii) the

words "include", "includes", and "including" mean include, includes and including "without limitation" and (iii) the words "hereof", "hereto", "herein" and "hereunder" and words of similar import refer to the Agreement as a whole and not to any particular provision of the Agreement.

**2. EffectiveDate**

This Agreement shall be effective on the day that falls one Business Day after the date of signing of this Agreement.

**3. Terms and Termination**

**3.1 Term**

The term of the Agreement shall commence on the Effective Date and shall continue for twenty five (25) years from the Commercial Operations Date (the "Term"), unless and until terminated earlier pursuant to the provisions of the Agreement. After the Term, the ownership of the System shall be transferred to the Purchaser free of cost.

**3.2 Purchase Option/ PurchaseObligation**

So long as a Purchaser default shall not have occurred and be continuing, Purchaser has -the option to purchase the System by paying the Power Producer the Purchase price as per Schedule III to this Agreement. To exercise its purchase option, the Purchaser shall not less than Ninety (90) days prior to the proposed Purchase Date, provide written notice to the Power,. Producer of Purchaser's intent to exercise .its option to purchase the System on such purchase date: In the event Purchaser confirms its intention to exercise the purchase option in writing to. the Power Producer, (i) Purchaser shall pay the applicable purchase price to the Power Producer on the Purchase Date, and such payment shall be made in accordance with any written instructions delivered to Purchaser by the Power Producer for payments under the Agreement, and (ii) the Parties shall promptly execute all documents necessary to (A) cause title to the System to pass to Purchaser on the Purchase Date, free and clear of all liens and (B) assign all vendor warranties for the System to Purchaser. Upon execution of the documents and payment of the applicable purchase price in each case as described in the preceding sentence, the Agreement shall terminate automatically and the

Purchaser shall become the owner of the System. Upon such termination, the Power Producer shall offer its operations and maintenance ("O&M") services to the Purchaser and the Parties may enter into an O&M agreement in this regard. The terms and conditions of the O&M agreement will be negotiated in good faith between the Parties.

### **3.3 NOT USED**

### **3.4 Conditions of the Agreement prior to installation**

In the event that any of the following events or circumstances occur prior to the Commercial Operation Date, the Power Producer may terminate the Agreement, in which case neither Party shall have any liability to the other except for any such liabilities that may have accrued prior to such termination.

- (a) There has been a material adverse change in the rights of Purchaser to occupy the Premises or the Power Producer to install the System at the Premises.
- (b) The Power Producer has determined that there are easements, CCRs or other liens or encumbrances that would materially impair or prevent the installation, operation, maintenance or removal of the System. If any dispute arises before commercial operation date, the same shall be resolved under clause, 17.7(c)

## **4 Construction, Installation, Testing and Commissioning of the System.**

### **4.1 Installation Work**

- a) The Power Producer will cause the Project to be designed, manufactured, supplied, engineered, erected, tested and commissioned, operated & maintained and constructed substantially in accordance with RFS and the sanction letter issued by JREDA. The Power Producer shall provide to the Purchaser a bill of materials listing the major equipment constituting the System. Such bill of materials shall be provided within 30 days of the Commercial Operation Date.
- b) The Power Producer shall have access as reasonably permitted by the Purchaser to perform the Installation Work at the Premises in a manner

that minimizes inconvenience to and interference with the use of the Premises to the extent commercially practical.

- c) It is agreed between the Parties that the Power Producer shall commission the System with a capacity of KWp. Power Producer may construct a System of smaller size if it receives only part approval of government or for any other material commercial reason, as mutually agreed between the Parties in writing. In the event a System of smaller capacity is eventually agreed to be installed, the clauses pertaining to Purchase Price as set out under this Agreement shall be adjusted proportionately as per mutual agreement between the Parties in writing.
- d) The Power Producer shall provide and lay the dedicated electrical cables for transmission of Solar Power from the System upto the Delivery Point. Transmission or distribution of Solar Power beyond this point will be the responsibility of the Purchaser. The Delivery Point shall be where the Main Metering System is located.
- e) Unless otherwise agreed between the Parties, the Power Producer shall not do (a) chipping of rooftop; or (b) water proofing of rooftop be disturbed.
- (c) carry out any other modification of the Premises without the written consent of the Purchaser. The Power Producer shall maintain general cleanliness of area around the Project during construction and operation period of the Project. In case any damages is caused to the equipment/ facilities owned by the Purchaser due to the Power Producer, the same shall be made good rectified by the Power Producer at their cost.
- f) The Power Producer shall, within fifteen (15) days of the Effective Date, submit to the Purchaser shop drawings of the Project for approval ("Shop Drawings"). The drawings will have to be approved from the Power Purchaser within 3 days from the submission of the drawings: If the Purchaser has any objection/recommendation in the Shop Drawings, he shall communicate the same to Power Producer within a period of ten (10) days of the date of submission of the Shop Drawings. Any delay will extend the Effective Date and such approval shall not be unreasonably withheld.



- g) Subject to any punch-list items which shall be agreed by the Purchaser as not being material to completion of the Project, the Power Producer agrees that it shall achieve the completion of the Project/Commissioning of the Project within ..... months from the Effective Date ("Scheduled Completion Date"). Any delays on account of the Purchaser that may cause hindrance or delay in execution of the Project shall not be included in the set period of months. Purchaser shall ensure that sufficient load is available at the Delivery Point to ensure synchronization and drawl of power from System.
- h) If the Power Producer is unable to commence supply of Solar Power to the Purchaser by the Scheduled Completion Date, other than for the reasons specified in Article 11 and 12.2 (Force Majeure or Purchaser Default), the Power Producer or its contractor shall pay to JREDA genuine pre-estimated liquidate damages for the delay in such commencement of supply of Solar Power as per the clause of the JREDA RFS appended as Schedule to this Agreement.
- i) The Purchaser shall ensure that all arrangements and infrastructure for receiving Solar Power beyond the Delivery Point are ready on or prior to the Commercial Operation Date and is maintained in such state in accordance with applicable laws through the Term of the Agreement.
- j) Power Producer shall fulfill all obligations undertaken by it under this Agreement.

#### **42 Approvals and Permits**

Each of the Parties shall assist the other Party in obtaining all necessary Government Approvals, third party approvals and permits including but not limited to those listed in Schedule V hereto and any waivers, approvals or releases required pursuant to any applicable CCR.

#### **43 System Acceptance Testing**

- (a) The Power Producer shall give 10 days advance notice to conduct the testing of the Project and shall conduct testing of the Project in the presence of Purchaser's designated representative.

- (b) If the results of such testing indicate that the System is capable of generating electric energy (at full rated KWp) for 5 continuous hours using such instruments and meters as have been installed for such purposes, then the Power Producer shall send' a Written notice to Purchaser to that effect, and the date of successful conducting such tests and injection of. Power at Delivery Point shall be. the"Commercial OperationDated"

## **5 SystemOperations**

- 5.1 The Power Producer as Owner and Operator The System will be legally and beneficially owned by the Power Producer and will be operated and maintained and, as necessary, repaired by the Power Producer at its sole cost and expense. Replacement of spare parts if any shall be responsibility of Power Producer for the complete period of Agreement. if any repair or maintenance costs incurred by the Power Producer as a result of Purchaser's breach of its obligations, shall be reimbursed in full by Purchaser Power Producer shall not be responsible for any work done by others on any part of the System/Project authorized by the Purchaser and not authorized in advance by the Power Producer in writing. Power Producer shall not be responsible for any loss, damage, cost or expense arising out of or resulting from improper operation or maintenance of the System by Purchaser or any one instructed to do such work by Purchaser. In the event of a problem with the System, as a result of the Purchaser actions for which Power Producer is not responsible as provided in this Agreement, Purchaser may choose and pay Power Producer for diagnosing and correcting the problem at Power Producer or Power Producer's contractors standard rates. Standards rates and charges may be taken from market for comparisons by the powerpurchaser.

## **5.2 Metering**

- (a) The Power producer shall install the Main Metering System with due certification for the measurement of electrical energy produced by the System.
- (b) The meter will be read by Power Producer's personnel on the Metering date. The authorized representative of the Purchaser shall be present at the time of meter reading.Both the Parties shall sign a joint meter

reading report. However, in case the Joint meter reading report is not signed in the first three business days of any month due to non-availability of the Purchaser's authorized representative, the report signed by the Power Producer shall be considered as Joint Meter Reading Report. The Parties agree that such Joint meter reading Report shall be final and binding on the Parties.

- (c) The Main Metering System at the Delivery Point and any additional meters required by Applicable Law shall be tested, maintained and owned by the Power Producer- In case of malfunctioning of main metering system at delivery point, deemed generation shall be paid upto 3 days only, and after that no payment shall be made till meter is replaced by new one or repaired.
- (d) The Power Producer shall connect the Solar output to the existing system as per the requirements of Discom
- (e) The Purchaser may, at its own discretion, install a check meter, at its cost, to verify the measurements of the Main Metering System.
- (f) The title to the Solar Power supplied by the Power Producer shall pass to the Purchaser at the Delivery Point.
- (g) Power Producer shall be responsible for transformer etc. "if required" & metering

### 53 System Disruptions

- (a) Availability of premises: Purchaser will provide full access of the site to Power Producer for installation, operation and maintenance of solar power plant during the period of Agreement. Power Purchaser will also provide restricted access of the Premises to Power Producer for operation and maintenance of solar powerplant.
- (b) Purchaser will not provide/construct any structure within its Premises or around its premises which shades the solar panels effecting the generation of the energy during the Agreement period.
- (c) Roof Repair and other System Disruptions In the event that (a) the Purchaser repairs the Premises' roof for any reason not directly related to damage, if any, caused by the System, and such repair required the

partial or complete temporary disassembly or movement of the System, or (b) any act or omission of Purchaser or Purchaser's employees, Affiliates, agents or subcontractors (collectively, a "Purchaser Act" ) result in a disruption or outage in System production, and such events attributable to Purchaser (except Force majeure, then, in either case) Purchaser shall (i) pay the Power Producer for all work required by the Power Producer to disassemble or move the System and re-assemble the system after completion of the repair work and (ii) continue to make all payments for the Solar Power during such period of System disruption (the "Disruption Period"). For the purpose of calculating Solar Power Payments and lost revenue for such Disruption Period, Solar Power shall be deemed to have been produced at the average rate. For the first year, the generation of a particular month (in which the deemed generation needs to be calculated will be used for calculating the average, 2nd year onwards, the generation data of the previous year, corresponding month will be referred. ("Deemed Generation"), Power producer shall inform about the 'disruption or outage in System production, for reasons attributable to purchaser in 'writing with date and time of such occurrences, and Purchaser's liability shall start from the date of intimation for above of disruption or outage in system production, on account of Purchaser.

## **6 Delivery of Solar Power**

6.1 Purchaser Requirement: Purchaser agrees to purchase one hundred percent (100%) of the Solar Power generated by the System and made available by the Power Producer to Purchaser at the Delivery Point during each relevant month of the Term. In the event that the Purchaser is unable to off take 100% of the electricity generated, when it is generated, then Deemed Generation will apply only in case following conditions:

- a) In the event Power Producer is generating power more than the available load, and the Purchaser is not able to export or record the excess units generated.

- b) Faults in the equipments of the Purchaser eg., Net meter Cables, Equipments etc., which may stop the feeding/record of the Solar Power generated.

#### 62 Estimated Annual Production

The annual estimate of Solar Power with respect to the System for any given year as determined pursuant to this Section shall be the "Estimated Annual Production". The Estimated Annual Production for each year of the Initial Term is set forth in Schedule IV hereof.

#### 63 Suspension of Delivery

Power Producer shall be entitled to suspend delivery of electricity from the System to the Delivery Point for the purpose of maintaining and repairing the System upon giving one week's advance written notice to the Purchaser except in the case of emergency repairs. Such suspension of Service shall not constitute a breach of this Agreement provided that the Power Producer shall use commercially reasonable efforts to minimize any interruption in service to the Purchaser. However, any preventive maintenance shall be done only during the period when plant is not generating.

#### 64 VOID

### 7 Tariff and Payments

- 7.1 Consideration Purchaser shall pay to the Power Producer a monthly payment ( the "Solar Power Payment") for the Solar Power generated by the System as per the Metering clause 5.2 (b) above during each calendar month of the Term equal to the actual Monthly Production as recorded in Joint Meter Reading Report for the System for the relevant month multiplied by the Tariff irrespective of (i) whether any or all units of Solar Power has been drawn, consumed or utilized by Purchaser and / or (ii) whether any Solar Power has been injected, whether inadvertently or otherwise, into the grid of the Distribution Utility.

The Power Producer will bill the Purchaser for each KWh metered as above at the Delivery Point, at the Tariff prevailing at that point of time.

As detailed in Schedule-II, the Tariff will be equal to Rs. \_\_\_\_\_ levelized tariff as per JREDA allocations.

The 'year' Considered shall be the financial year which April 1st to 31st March of every year as per JREDA

Schedule II provides a detailed year on year tariff schedule.

72 Invoice

The Power Producer shall invoice Purchaser on the first day of each month (each, an "Invoice Date") commencing on the first Invoice Date to occur after the Commercial Operation Date, for the Solar Power Payment in respect of the immediately preceding month. The last invoice shall include production only through the Expiration Date of this Agreement.

73 The invoice to the purchaser shall include.

- (a) The Solar Power calculations for the relevant billing period.
- (b) Supporting data, documents and calculations in accordance with this Agreement.

74 Time of payment Purchaser shall pay all amounts due here under within 21 days after the date of the receipt of the invoice via email or post ("DueDate").

75 Method of payment Purchaser shall make all payments under the Agreement by electronic funds transfer only in immediately available funds to the account designated by the Power Producer from time to time. The current account details are mentioned in Annexure 1. All payments made here under shall be non-refundable, subject to the applicable tax deduction at source, and be made free and clear of any other tax, levy, assessment; duties or other charges and not subject to reduction, set-off, or adjustment of any kind. Further, if any taxes and duties are leviable currently or in future, such taxes and duties shall be paid by the Purchaser over and above the solar electricity tariff mentioned in this agreement. Such taxes and duties could include, but not restricted to Electricity Duty, Tax on Sale of Electricity (TOSE). If the Purchaser deducts any tax at source, the Purchaser will issue a tax credit certificates as per law.

76 Late Payment Surcharge/ Early Payment Discount

In case payment of any invoice is delayed by the Purchaser beyond its Due Date, a later payment surcharge shall be payable by Purchaser to the Power Producer at the rate of 1.25% per month("Late Payment Surcharge") calculated on the amount of outstanding payment, calculated on a day to day basis for each day of the delay, compounded on monthly rests. Late Payment Surcharge shall be claimed by the Power Producer, through its subsequent invoice. If the Purchaser pays within 10 working days (as against credit of 21 days available to him), then an early payment discount of 0.5% of the invoice value can be deducted by the Purchaser while making such early payment.

7.7 Disputed Payments: In the event that the Purchaser disputes an invoice, it shall give notice of such a dispute within 15 days of receiving the invoice setting out details of the disputed amount. The Purchaser shall pay by the Due Date 100% of any undisputed amount and in case the invoice is disputed, the Purchaser shall pay an amount based on average consumption of last three consecutive undisputed invoices. Amount so recovered shall be subject to final adjustment on resolution of the dispute. Thereafter, the Parties shall discuss and try to resolve the disputed amount within a week of receipt of such notice of dispute. If the Parties resolve the dispute, an appropriate adjustment shall be made in the next invoice. If the dispute has not been resolved by the date of the next invoice the dispute shall be referred to a committee of one member from each of Purchaser and Power Producer, If the dispute is still not resolved by the next following invoice it shall be referred to Arbitration as provided in the present Agreement.

7.8 Not used

**7.9 Change in Law:**

(a) For the Purpose of this section 7.9, the term "Change in Law" shall mean the occurrence of any of the following events after the Effective date, resulting into any additional recurring / non-recurring expenditure by the Power Producer or any income to the Power Producer.

ⓐ The enactment, coming into effect, adoption, promulgation, amendment, modification or repeal (without re-enactment or

consolidation) in India, of any Law, including rules and regulations framed pursuant to such Law; or

- ⓪ A change in the interpretation of any Law by any Governmental Authority having the legal power to interpret or apply such Law, or any competent court; or
- ⓪ The imposition of a requirement, for obtaining any Government Approvals which was not required earlier; or
- (iv) a change in the terms and conditions prescribed for obtaining any Government Approvals or the inclusion of any new terms or conditions for Obtaining such Government Approvals; or
- (v) any introduction of any tax made applicable for supply of power by the Power Producer as per the terms of this Agreement. Any benefit due to change in tax on the sale of solar energy shall be passed on to Purchaser.
- (vi) However change in the rate of any existing tax will not be considered a change in law. Any risk of change of tax rate whatsoever related to the work lies with the power producer.
- (vi) Any benefit arising due to change in above para(i) to (vi) shall be passed on to the Purchaser.

But not include any change in any withholding tax on income or dividends distributed to the shareholders of the Power Producer.

- (b) Application and Principles for computing impact of Change in Law:

While determining the consequence of Change in Law under this Article 7.9, the Parties shall have due regard to the Principle that the purpose of compensating the Party affected by such Change in Law, is to restore through monthly bill payment, to the extent contemplated in this Article 7.9, the affected Party to the same economic position as if such Change in Law has not occurred and such impact shall be mutually decided in writing.



- (c) Solar Power Payment Adjustment Payment on account of Change in Law Subject to provisions mentioned above, the adjustment in Solar Power Payment shall be effective from:
- (i) The date of adoption, promulgation, amendment, re-enactment or repeal of the Law or Change in Law; or
  - (ii) The date of order/ judgment of the competent court; of tribunal or Governmental Authority, if the Change in Law is on account of a change in interpretation of Law.

## **8 General Covenants**

### **8.1 Power Producer's Covenants**

The Power Producer covenants and agrees to the following:

- (a) Notice of Damage or Emergency: The Power Producer shall (a) promptly notify Purchaser if it becomes aware of any damage to or loss of the use of the System or that could reasonably be expected to adversely affect the System, (b) immediately notify Purchaser once it becomes aware of any event or circumstance that poses an imminent risk to human health, the environment, the System or the Premises.
- (b) System Condition: The Power Producer shall take all actions reasonably necessary to ensure that the System is capable of providing Solar Power at a commercially reasonable continuous rate: Subject to there being no Purchaser Default, the Power Producer shall provide 24 x 7 offsite / offsite monitoring and maintenance of the System through out the period of this agreement at no additional cost.
- (c) The System shall meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the daily normalized irradiance levels of the location during the O&M period. PR shall be minimum of 75% at the time of inspection for initial Project acceptance.
- (d) Governmental Approvals : While providing the Installation work, solar Power and System Operations, the Power Producer shall obtain and maintain and secure all Governmental Approval required to be obtained

and maintained and secured by the Power Producer and to enable the Power Producer to perform such obligations

- (e) The interconnection of the rooftop solar system with the network of the distribution licensee shall be made as per the technical standards for connectivity of distributed generated resources regulation's .as may be notified by the competent authority. The interconnection of the rooftop solar system shall be as per the contracted load and / or respective voltage level applicable to the Purchaser as per the provisions of the guidelines issued by the competent authority.
- (f) Health and Safety: The Power Producer shall take all necessary and reasonable safety precautions with respect to providing the installation Work, Solar Power, and System Operations that shall comply with all Applicable Law pertaining-to the health and safety of persons and real and personal property.

## **82 Power Producer's Representatives**

During the subsistence of this Agreement, the Power Producer undertakes to respond to all questions, concerns and complaints of the Purchaser regarding the System in a prompt and efficient manner. The Power Producer designates the following individual as its representative pertaining to performance of this Agreement till the Commercial Operation Date:

Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

The Power Producer designates the following individuals as its representative and primary point of contact pertaining to performance of this Agreement following the Commercial Operation Date till termination:

Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

## **83 Purchaser's Covenants**

Purchaser covenants and agrees to the following:

- (a) Notice of Damage or Emergency: Purchaser shall (a) promptly notify the Power Producer if it becomes aware of any damage to or loss of the use of the System or that could reasonably be expected to adversely affect the System; (b) immediately notify the Power Producer once it becomes aware of any event or circumstance that poses an imminent risk to human health, the environment, the System or the Premises.
- (b) Liens: Purchaser shall not directly or indirectly cause, create, incur, assume or suffer to exist any Liens on or with respect to the System or any interest therein. If Purchaser breaches its obligations under this Clause, it shall immediately notify the Power Producer in writing, and shall promptly cause such Lien to be discharged and released of record without any cost to the Power Producer, and shall indemnify the Power Producer against all costs and expenses (including reasonable attorneys fees and court costs) incurred in discharging and releasing such Lien.
- (c) Consents and Approvals: Purchaser shall ensure that any authorizations required of Purchaser under this Agreement, including those required for installation of System at the Premises and to draw and consume Solar Power are provided in a timely manner. The Purchaser shall cooperate with the Power Producer to obtain such approvals, permits, rebates or other financial incentives.
- (d) Access to Premises Grant of License: Purchaser hereby grants to the Power Producer a license co-terminus with the Term, containing all the rights necessary for the Power Producer to use portions of the Premises for the installation, operation and maintenance of the System pursuant to the terms of this Agreement, including ingress and egress rights to the Premises for the Power Producer and its employees and authorized representatives and access to electrical panels and conduits to interconnector disconnect the System with the Premises electrical wiring with the consent and approval of the Purchaser's authorized representative identified by the Purchaser. Photos will be provided by

the Power Producer. Power Purchaser will assist in availing permissions to the site.

- (e) Security: The building which has enhanced security of Solar Power System Purchaser will keep the premises locked. In spite of these measures, if any damages to the System takes place due to theft or vandalism then the same shall be claimed or reimbursed through insurances by Power producer. In case of theft and vandalism acts, the Purchaser will assist the Power Producer in procedures of filing FIRs, insurance claims and any other related activities. Whenever, the damages to the System occurs (except due to negligence of Power Producer) then the same shall be jointly assessed by both the Parties and a severity level will be decided, which will further decide the duration offered to the Power Producer to correct the damage, and the Power Producer shall be paid the amount on the basis of 'Deemed generation' for such a period. Power Producer shall be entitled to any insurance proceeds received for damages in this clause. Severity level and period offered can be referred to in Annexure 2. Purchaser will not conduct activities on, in or about the Premises that have a reasonable likelihood of causing damage, impairment or otherwise adversely affecting the System. If System is damaged due to any such activity or through any other agency contracted by the Purchaser directly or indirectly, such a damage will be borne by the Purchaser.
- (f) Regardless of whether Purchaser is owner of the Premises or leases the Premises from a landlord, Purchaser hereby covenants that (a) the Power Producer shall have access to the Premises and System during the Term of this Agreement, and (b) neither Purchaser nor Purchaser's landlord will interfere or handle any of the Power Producer's equipment or the System without written authorization from the Power Producer.
- (g) Temporary storage space during installation : Purchaser shall provide sufficient space at the Premises for the temporary storage and staging of tools, materials and equipment and for the parking of construction crew vehicles and temporary Construction, trailers and facilities reasonably necessary during the Installation Work, System Operations and access for rigging and material handling.

- (h) Sunlight Easements: Purchaser will take all reasonable actions as necessary to prevent other building, structures or flora from overshadowing or otherwise blocking access of 'sunlight to the System, including but not limited to-such actions as may be reasonably necessary to obtain a solar access easement for suchpurpose.
- (i) Evacuation — Purchaser shall off take 100% of the Solar Power generated from the Delivery Point, and pay all invoices raised by the Power Producer under this Agreement by the 'Due Date and pay interest on delayed payments, if any, as per thisAgreement.
- (j) Water - Power Purchaser at zero cost shall arrange Raw Water at a given .point as per the requirements of the Power Producer, forperiodic cleaning of the solar panels ( Litres - twice amonth).
- (k) AuxiliaryPower—The Purchaser shall provide sufficient auxiliary power to the Power Producer for the maintenance and .operation of its system, if available and possible, at the rate Purchaser is paying to the Discom.
- (l) Relocation - If one or more of the Solar Power Plant panels needs to be temporarily moved or its generation suspended, for any other reason requested by the Power Purchaser, the Power Purchaser will be responsible for pre-agreed costs on actuals only, arising from moving, disassembling and re-installing/ commissioning the Solar Power Plant, asagreedbetweentheParties.ThePowerProducerwillberesponsible for providing detailed documentary proof of the actual pre-agreed costs borne for such relocation/disassembling. Within 30 days of these satisfactory documents being provided by the Power Producer, the Purchaser shall reimburse these pre-agreed expenses in full, and delayed payment beyond the date mentioned above will attract Late Payment charges as described in Clause 7.6. During any interruption in generation during such a relocation, the Purchaser will continue to be billed as per Deemed Generation, during the period of interruption, for the affected Solar PowerPlant(s).

## **9 Representations &Warranties**

### **9.1 Representations and Warranties Relating to AgreementValidity**

In addition to any other representations and warranties contained in the Agreement, each Party represents and warrants to the other that:

- (a) It is duly organized and validly existing and in good standing in the jurisdiction of its incorporation;
- (b) It has the full right and authority to enter into, execute, deliver, and perform its obligations under the Agreement.
- (c) It has taken all requisite corporate or other action to approve the execution, delivery, and performance of the Agreement;
- (d) The Agreement constitutes its legal, valid and binding obligation enforceable against such Party in accordance with its terms;
- (e) There is not litigation, action, proceeding or investigation pending or, to the best of its knowledge, threatened before any court or other Governmental Authority by, against, affecting or involving any of its business or assets that could reasonably be expected to adversely affect its ability to carry out the transactions contemplated herein; and
- (f) Its execution and performance of the Agreement and the transactions contemplated hereby do not constitute a breach of any term or provision of, or a default under (i) any contract or agreement to which it or any of its Affiliates is a party or by which it or any of its Affiliates or its or their property is bound, (ii) its organizational documents, or (iii) any Applicable Laws.

## **10 Taxes and Governmental Fees**

### **10.1 Purchaser obligations**

Purchaser shall pay for any taxes, fees or charges imposed or authorized by any Governmental Authority in future (as on date no such taxes/fees/charges are being levied) on sale of the Solar Power to Purchaser pursuant to clause 7. The Power Producer shall notify Purchaser in writing with a detailed statement of such amounts, which shall be invoiced by the Power Producer in the monthly bills and payable by Purchaser. Purchaser shall timely report, make filings for, and pay any and all sales, use, income or other taxes, and any other amounts assessed against it due to its purchase of the Solar Power. This Section 10.1 excludes taxes specified in Section 10.2.

## 102 Power Producer Obligations

The Power Producer shall be responsible for all income taxes and any and all franchise fees or similar fees assessed against it due to its ownership of the System. The Power Producer shall not be obligated for any taxes payable by or assessed against Purchaser based on or related to Purchasers overall income or revenues.

## 11 Force Majeure

### 11.1 Definition

"Force Majeure Event" means any act or event that prevents the affected Party from performing its obligation in accordance with the Agreement, if such act or event is beyond the reasonable control of the affected Party and such Party had been unable to overcome such act or event with the exercise of due diligence (including the expenditure of reasonable sums). Subject to the foregoing conditions, "Force Majeure Event" shall include without limitation the following acts or events: (i) natural phenomena, such as storms, hurricanes, floods, lightning, volcanic eruptions and earthquakes; (ii) explosions or fires arising from lighting or other causes unrelated to the acts or omissions of the Party seeking to be excused from performance; (iii) acts of war or public disorders, civil disturbances, riots, insurrection, sabotage, epidemic, terrorist acts, or rebellion. A Force Majeure Event shall not be based on the economic hardship of either Party. In case of any damage because of force majeure event, the System shall be repaired / commissioned at its own cost by the Power Producer.

11.2 **Excused Performance:** Except as otherwise specifically provided in the Agreement, neither Party shall be considered in breach of the Agreement or liable for any delay or failure to comply with the Agreement, if and to the extent that such delay or failure is attributable to the occurrence of a Force Majeure Event; provided that the Party claiming relief under this Section 11 shall immediately (i) notify the other Party in writing of the existence of the Force Majeure Event, (ii) exercise all reasonable efforts necessary to minimize delay caused by such Force Majeure Event, (iii) notify the other Party in writing of the cessation or termination of said Force Majeure Event and (iv) provided, however, that Purchaser shall not be excused from making any payments and

paying any unpaid amounts due in respect of Solar Power delivered to Purchaser prior to the Force Majeure Event performance interruption.

- 11.3 Termination as a Consequence of Force Majeure Event If a Force Majeure Event shall have occurred that has affected the Power Producer's performance of its obligations hereunder and that has continued for a continuous period of one hundred eighty (180) days, then Purchaser shall be entitled to terminate the Agreement and if such Force Majeure Event continues for further ninety (90) days period, the Agreement shall automatically terminate. Upon such termination for a Force Majeure Event, neither Party shall have any liability to the other (other than any such liabilities that have accrued prior to such termination).

## **12 Default**

### **12.1 Power Producer Defaults and Power Purchaser Remedies**

- (a) Power Producer Defaults: The following events shall be defaults with respect to the Power Producer (each, a "Power Producer Default").
- (i) An Insolvency Event shall have occurred with respect to the Power Producer;
  - (ii) Failure, to achieve Commissioning of the System within 6 months of the Effective Date; and
  - (iii) The Power Producer breaches any material term of the Agreement and (A) if such breach can be cured within sixty (60) days after Purchaser's written notice of such breach and the Power Producer fails to cure the same; or (B) the Power Producer fails to commence and pursue a cure within such sixty (60) days period if a longer cure period is needed.
- (b) Purchaser's Remedies:
- (i) If a Power Producer Default described in Section 12.1 (a) has occurred and is continuing, in addition to other remedies expressly provided herein, and subject to Section 13, Purchaser shall have a right to deliver a notice of its intention to terminate this Agreement ("Purchaser Preliminary Default Notice"), which shall specify in reasonable detail, the circumstances giving rise to the issue of such notice.



- (i) Upon the occurrence and continuation of Power Producer Default and the failure by the Power Producer to cure such default within the applicable cure period specified in this Article; the Purchaser shall be at liberty avail the services of any other firm / successful bidder.
- (ii) Following the issue of Purchaser Preliminary Default Notice, it shall be the responsibility of the Parties to discuss as to what steps shall be taken with a view to mitigate the consequences of the relevant Power Producer's Default having regard to all the circumstances: If the Power Producer Default is not cured within a period of sixty (60) days of the issue of Purchaser Preliminary Default Notice or any other such period mutually agreed upon by the Parties, the Purchaser shall have the right to terminate this Agreement by issuing a Purchaser Termination Notice.
- (iii) Upon the delivery of the Purchaser Termination Notice, this Agreement shall stand terminated. The Power Producer shall have the liability to make payment within sixty (60) days from the date of Purchaser Termination Notice towards compensation to Purchaser equivalent to the difference between the Tariff and the grid rate notified by the relevant Government Authority for that point in time multiplied by the estimated Solar Power generated for a period of two (2) years following the termination, considered on normative capacity utilization factor.
- (iv) if the Power Producer fails to remove the System from the Premises within one month from the date of termination, the Purchaser shall be entitled to dispose of the System in any manner it deems fit.
- (v) The Power Purchaser may exercise any other remedy it may have at law or equity or under the Agreement.

## 122 Power Purchaser Defaults and Power Producer's Remedies

- (a) Purchaser Default : The following events shall be defaults with respect to Purchaser (each, a "Purchaser Default")
  - (i) An Insolvency Event shall have occurred with respect to Purchaser;
  - (ii) Purchaser breaches any material term of the Agreement if (A) such breach can be cured within sixty (60) days after the Power Producer's notice of such breach and Purchaser fails to so cure, or (B) Purchaser

fails to commence and pursues aid cure within such sixty (60) day period if a longer cure period is needed;and

- (iii) Pin-chaser-fails to pay the Power Producer any undisputed amount or, if the amount is disputed, an amount based on average consumption of last three consecutive undisputed invoices to the Power Producer under Section 7.7 of this Agreement within sixty (60) days from the receipt of notice from the Power Producer of such past due amount
- (b) Power Producer's Remedies: If a Purchaser Default described in Sections 12.2 (a) has occurred and is continuing, in addition to other remedies expressly provided herein, and subject to Section 13, the PowerProducershallbeentitledto terminatethisAgreementbyserving a fifteen (15) days notice and upon such termination, (A) the Power Producer shall be entitled to receive from Purchaser the Purchase Price. The Purchase Price payable shall be the Purchase Price Specified in Schedule III that falls on such date. Upon the payment of the Purchase Price, the Power Producer shall cause the title of the System to transfer to the Purchaser and (b) the Power Producer may exercise any other remedy it may have at law or equity or under theAgreement.

### **13 Limitations ofLiability**

- 13.1 Except as expressly provided herein, neither Party shall be liable to the other Party or its Indemnified Persons for any special, punitive, exemplary, indirect, or consequential damages, losses or damages for lost revenue or lost profits, whether foreseeable or not, arising out of, or in connection with the Agreement.
- 13.2 Subject to the provisions of the Agreement, the Power Producer shall be solely responsible for the manner in which its obligations under this Agreement are to be performed. All employees and representatives of the Power Producer, or contractors engaged by the Power producer in connection with Power Producer and shall not be deemed to be employees, representatives, contractors of the Purchaser Nothing contained in the Agreement or in any agreement or contract executed by the Power Producer shall be construed to create any contractual relationship between any such employees, representatives or contractors and thePurchaser.

13.3 Not with standing any liability or obligation that may arise under this Agreement, any loss, damage, liability, payment, obligation or expense which is insured or not or for which the Purchaser can claim compensation under any insurance policy, shall not be charged to or payable by the Purchaser

#### **14 Assignment & Novation**

14.1 Assignment: Notwithstanding anything contained herein, the Power Producer has the right to assign all or any of its rights under this Agreement (including rights over any assets hereunder), to any third party including, though not restricted to any lender, equipment lessor or other party ("Assignment"), with the consent of the Power Purchaser. The Power Purchaser shall not unreasonably withhold such consent. In the event of such assignment, the Purchaser will be able to hold the Power Producer as well as the party to whom the benefits under this contract are assigned, to be jointly and severally responsible for performing the obligations under this contract. Further, in the event of assignment, the Purchaser agrees to make the payments due to the Power Producer under this agreement, directly to the assignee, upon receipt of such notice by the Power Producer.

If the Power Producer were to sell the Solar Power Plant, then the new buyer(s) would need to abide by this Agreement. Further, the Power Producer reserves the right to assign whole or part of the assets to lenders/ leasing companies. Purchaser may assign its rights under this Agreement, without the prior consent of Power Producer, to an Affiliate or any successor in interest to Purchaser, whether by way of merger, reorganization or sale of assets (including any sale of a line of business). This Agreement shall inure to the benefit of and be binding upon Purchaser and its successors or assigns. However, any such actions as intended by the Power Producer under Article 14.1 and Article 14.2 shall be binding on Power Purchaser ,if there are zero material inconsistencies present in the contract provisions during the time of assignment/novation, else, it shall be construed as default in contract and appropriate actions shall be taken as deemed fit.

14.2 Novation: The Parties agree and acknowledge that the Power Producer may intend to novate the Agreement to a party, and has the right to transfer any or all of its rights and obligations under this Agreement to a party or any other

third party ("New Party"), with the consent of the Power Purchaser. The Power Purchaser shall not unreasonably withhold such consent. Upon Novation, the New Party shall automatically and without any further action be entitled to all the same rights and assume the same obligations, under this Agreement, as if it were originally a party to this Agreement. Further, the Purchaser hereby agrees and undertakes that, promptly upon receiving a request from the Power Producer, the Purchaser shall execute such further writings, deeds and/or agreements and take all such further actions as may be necessary for effecting or implementing the transfer of any or all of the Power Producer's rights and/or obligations under this Agreement to the New Party. If the parties agree to do Novation then separate Novation agreement shall be executed.

#### 14.3 Notices

Unless otherwise provided in the Agreement, all notices and communications concerning the Agreement shall be in writing and addressed to the Parties at the addresses set forth below:

Power Producer's address and contact details:

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Purchasers address and contact details:

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#### 14.3 Notice

Unless otherwise provided herein, any notice provided for in the Agreement shall be hand delivered, sent by registered post, or by courier delivery, or transmitted by facsimile and shall be deemed delivered to the addressee or its office when received at the address for notice specified above when hand delivered or sent by courier delivery, upon posting if sent by registered post and upon confirmation of sending when sent by facsimile on the next Business Day.

### 15. Confidentiality

## 15.1 Confidentiality obligation

- (a) If the Power Producer provides confidential information, including business plans, strategies, financial information, proprietary, patented, licensed, copy righted or trademarked information, and / or technical information regarding the , design, operation and maintenance of the System ("Confidential Information") to Purchaser or, if in the course of performing under the Agreement or negotiating the Agreement Purchaser learns Confidential Information regarding the facilities or plans of the Power Producer, Purchaser shall (a) protect the Confidential information from disclosure to third parties with the same degree of care accorded its own confidential and proprietary information, and (b) refrain from using such Confidential Information, except in the negotiation and performance of the Agreement. Notwithstanding the above, Purchaser may provide such Confidential Information to its officers, directors, manager, employees and Affiliates (collectively "Representatives"), in each case whose access is reasonably necessary for purposes of the Agreement. Each such recipient of Confidential information shall be informed by Purchaser of its confidential nature and shall be directed to treat such information confidentially and shall agree to abide by these provisions. Purchaser shall be liable for any breach of this provision by any entity to whom it improperly discloses Confidential Information. All Confidential Information shall remain the property of the Power Producer and shall be returned to. it after Purchaser's need for it has expired or upon the request of the PowerProducer.
- (b) If the Purchaser provides confidential information, including business plans, strategies, financial information, proprietary, patented, licensed, copy righted or trademarked information, ("Confidential Information") to the Power Producer or, if in the course of performing under the Agreement or negotiating the Agreement the Power Producer learns Confidential Information regarding the facilities Or plans of the Purchaser, the Power Producer shall (a) protect the Confidential Information from disclosure to third parties with the same degree of care accorded its own confidential and proprietary information, and (b) refrain from using such Confidential Information, except in the

negotiation and performance of the Agreement. Notwithstanding the above, the Power Producer may provide such Confidential Information to its officers, directors, managers, employees and Affiliates (collectively, "Representatives"), in each case whose access is reasonably necessary for purposes of the Agreement. Each such recipient of Confidential Information shall be informed by the Power Producer of its confidential nature and shall be directed to treat such information confidentially and shall agree to abide by these provisions. The Power Producer shall be liable for any breach, of this provision by any entity to whom it properly discloses Confidential Information. All Confidential Information shall remain the property of the Purchaser and shall be returned to it after the Power Producer's need for it has expired or upon the request of the Purchaser.

#### Permitted Disclosures

Notwithstanding any other provision contained herein, neither Party shall be required to hold confidential any information that

- (a) becomes publicly available other than through the receiving Party.
- (b) is required to be disclosed under Applicable Law or pursuant to a duly issued notice or required filing, but a receiving Party subject to any such requirement shall promptly notify the disclosing Party of such requirement
- (c) is independently developed by the receiving Party ;or
- (d) becomes available to the receiving Party without restriction from a third party under no obligation of confidentiality..

## **16 Indemnity**

### **16.1 Power Producer's Indemnity**

Subject to Section 13, the Power Producer agrees that it shall indemnify and hold harmless Purchaser and its members, officers, employees, students, casual laborers, persons permitted' to run any business or service, such as canteens, stores, photocopy units, banks, post office, courier service, hospital and to any lawful visitors (collectively, the "Purchaser Indemnified Parties") from and against any and all Losses incurred by the Purchaser Indemnified Parties

to the extent arising from or out of the following any claim for or arising out of any injury to Or death of any Person or Loss or damage to Property of any Person to the extent arising out of the Power Producer's negligence or willful misconduct. The Power Producer shall not, however, be required to reimburse or indemnify any Purchaser Indemnified Party for any Loss to the extent such Loss is due to the negligence or willful misconduct of any Purchaser indemnified Party.'

#### 16.2 Purchaser's Indemnity

Subject to Section 13, Purchaser agrees that it shall indemnify, defend and hold harmless the Power Producer, its permitted successors and assigns and their respective directors, officers, employees, contractors, sub-contractors, and agents (collectively, the "Power Producer indemnified Parties") from and against any and all Losses incurred by the Power Producer Indemnified Parties to the extent arising from or out of any claim for or arising out of any injury to or death or any Person or loss or damage to property of any Person to the extent arising out of Purchaser's negligence or willful misconduct. Purchaser shall not, however, be required to reimburse or indemnify any Power Producer Indemnified Party for any Loss to the extent such Loss is due to the negligence or willful misconduct of any Power Producer Indemnified Party.

### 17. **Miscellaneous**

#### 17.1 Amendments

This Agreement may only be amended, modified or, supplemented by an instrument in writing executed by duly authorized representatives of the Power Producer and Purchaser.

#### 17.2 Good will and Publicity

Neither Party shall use any name, trade name, service mark or trademark of the other Party in any promotional or advertising material without the prior written consent of such other Party. The Parties shall coordinate and cooperate with each other when making public announcements related to the execution and existence of this Agreement, and each Party shall have the right to promptly review, comment upon and approve any publicity materials, press releases and other public statements by the other Party that refer to, or that describe any aspect of, this Agreement; provided that no such publicity

releases or other public statements (except for filings or other statements or releases as may be required by applicable law) shall be made by either Party without the prior written consent of the other Party. Without limiting the generality of the foregoing and whether or not the consent of the other Party is required or obtained, all public statements must accurately reflect the rights and obligations of the Parties under this Agreement.

### 17.3 Industry Standards

Except as otherwise set forth herein, for the purpose of the Agreement, the normal standards of performance within the solar photovoltaic power generation Industry in the relevant market shall be the, measure of whether a Party's performance is reasonable and timely. Unless expressly defined herein, words having well-known technical or trade meanings shall be so construed.

### 17.4 Cumulative Remedies

Except as set forth to the contrary herein, any right or remedy of the Power Producer or Purchaser shall be cumulative and without prejudice to any other right or remedy.

### 17.5 No Waiver

The failure of the Power Producer or Purchaser to enforce any of the provisions of the Agreement, or the waiver thereof, shall not be construed as a general waiver or relinquishment on its part of any such provision in any other instance or of any other provision in any instance.

### 17.6 Survival

The obligations under Section 8:1 (d) (Power Producer Covenant), Sections 8.3(d), (e), (f) and (g) (Purchaser Covenants), Section 10 (Taxes and Governmental Fees), Section 13 (Limitation of Liability) Section 12.2 (Notices), Section 15 (Confidentiality), or pursuant to other provisions of this Agreement that, by their nature and context, are intended to survive. termination of this Agreement shall survive the expiration or termination of this Agreement for any reason.

### 17.7 Governing Law & Jurisdiction



- (a) This Agreement shall be governed by and construed in accordance with the laws of India. The Parties agree that the courts in Chandigarh shall have jurisdiction over any action or proceeding arising under the Agreement.
- (b) In the event of any Dispute, difference of opinion or dispute or claim arising out of or relating to this Agreement or breach, termination or the invalidity thereof, shall firstly be attempted to be resolved by conciliation. The procedure as mentioned in ROOFTOP OWNER Works Manual prevalent at the time of such dispute is to be followed to carry out the said conciliation.
- (c) Arbitration Procedure:
  - ⓪ In case of any dispute arising out of this Agreement or otherwise, between the parties hereto, ROOFTOP OWNER manual dispute resolution methodology will be used. A period of not more than 15 days will be allotted at each stage of resolution. Upon failure to resolve the said dispute through conciliation the dispute shall be referred to arbitration and the Chief Engineer ROOFTOP OWNER, may appoint an arbitrator from the panel of arbitrators of MOUD. The arbitrator(s) shall be appointed within a period of 30 days from the date of receipt of written notice / demand of appointment of arbitrator from either Party. The cost of the arbitration will be shared equally by Power Producer and the Purchaser.
  - (i) The venue of such arbitration shall be Chandigarh. The arbitral award shall be binding on both Parties. The arbitration proceedings shall be governed by the Indian Arbitration and Conciliation Act, 1996, as amended from time to time including provisions in force at the time the reference is made.
- (d) During the dispute resolution period, both the Parties shall continue to perform their respective obligations as per provisions of the Agreement.
- (e) This Section 17 is severable from the rest of this Agreement and shall remain in effect even if this Agreement is terminated for any reason.

#### 17.8 Severability

If any term, covenant or condition in the Agreement shall, to any extent, be invalid or unenforceable in any respect under Applicable Law, the remainder of the Agreement shall not be affected thereby, and each term, covenant or condition of the Agreement shall be valid and enforceable to the fullest extent permitted by Applicable Law and if appropriate, such invalid or unenforceable provision shall be modified or replaced to give effect to the underlying intent of the Parties and to the intended economic benefits of the Parties.

#### 17.9 Successors and Assigns

This Agreement and the rights and obligations under the Agreement shall be binding upon and shall inure to the benefit of the Power Producer and Purchaser and their respective successors and permitted assigns.

#### 17.10 Counterparts

This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one and the same instrument.

#### 17.11 Independent Service Provider

This Agreement is on a principal to principal basis between the parties hereto. Nothing contained in this Agreement shall be construed or deemed to create any association, partnership or joint venture or employer-employee relationship or principal-agent relationship in any manner whatsoever between the Parties.

#### 17.12 Non-Exclusive Agreement

This Agreement is on a non-exclusive basis. The Purchaser is free to engage any other service provider's or may entrust services similar to those provided by the Power Producer under this Agreement to any other person/s, provided the Power Producer's rights under this Agreement are not affected in any manner.

#### 17.13 Entire Agreement

This Agreement constitutes the entire agreement between the Parties hereto with respect to the subject matter of this Agreement and supersedes all prior agreements and undertakings; written or oral, with respect to the subject matter hereof except as otherwise expressly provided here in. The Schedules annexed to this Agreement also form a part of this Agreement.

17.14 Insurance

The Power Producer shall maintain at its own costs, throughout the tenure of this Agreement and any extensions thereof all mandatory insurance coverage for adequate amount including but not restricted to comprehensive general liability insurance including theft and vandalism, covering the System and accidental losses, bodily harm, injury, death of all individuals employed/ assigned by the Power Producer to perform the services required under this Agreement.

17.15 Annual accounts reconciliation shall be conducted annually between the Power Producer and Purchaser.

IN WITNESS WHEREOF the Parties have caused the Agreement to be duly executed through their duly authorized representatives as of the date set forth above.

FOR & ON BEHALF OF  
THE PRESIDENT OF INDIA

Signature :  
Name :  
Designation :

FOR & ON BEHALF OF POWER  
PRODUCER

Signature :  
Name :  
Designation :

WITNESSES

1) Signature :  
Name :  
Designation :

2) Signature :  
Name :  
Designation :

WITNESSES

1) Signature :  
Name :  
Designation :

2) Signature :  
Name :  
Designation :

## SCHEDULE 1

Description of the Premises:

Sr. no.	Premises Overview		
	Type of Roof Hours of Operation Security		
	Hours of operation		
	Security		

Capacity and Area Requirement	
Capacity	_____ kWp
Module Area	_____ sqm (PVSystem)
Number of Building	_____
Roofs	.....
Capacity	_____
Distribution	

SCHEDULE II

Tariff

Following are the details of the tariff agreed between the parties.

Purchaser shall pay power producer for solar power at the rate equal to INR \_\_\_\_\_/KWh

which is the levelized tariff as per JREDA allocation.

Year wise tariff is as follows.

year 1	
year 2	
year 3	
year 4	
year 5	
year 6	
year 7	
year 8	
year 9	
year 10	
year 11	
year 12	
year 13	
year 14	
year 15	
year 16	
year 17	
year 18	
year 19	
year 20	
year 21	
year 22	
year 23	
year 24	
year 25	

### SCHEDULE III

The following is the purchase value of the system over a period of 25 years.

This may be applicable under the following conditions:-

1. The Power Purchaser terminates the PPA before the 25 years PPA Tenure
2. The Power Purchaser wishes to own the Project before the Tenure of the PPA.
3. The Solar Project is relocated or shifted owing to demolition of the Building, damage to the building, change of city plans or any other reason.

The Price reference taken for calculating the total cost of the system is as per RFS rates for the state of Jharkhand which has used the CERC guidelines for arriving at the Project cost. On such System cost, the Purchase Price is determined on a year-on-year depreciation basis as follows:-

Purchase Price for ..... Kwp system @ Rs ..... /- KW	
Year	Salvage Value (Rs.)
1st year	100%
2nd year	96%
3rd year	92%
4th year	88%
5th year	84%
6th year	80%
7th year	76%
8th year	72%
9th year	68%
10th year	64%
11th year	60%
12th year	56%
13th year	52%
14th year	48%
15th year	44%
16th year	40%

17th year	36%
18th year	32%
19th year	28%
20th year	24%
21th year	20%
22nd year	16%
23rd year	12%
24th year	8%
25th year	4%

SCHEDULE IV

	Client :	-	
	Project :	___kWp Solar On-Grid PowerProject___	
	Location :		
	Design Criteria		
Expected Yearly Energy Generation Sheet			
End of Year	Yearly Degradation 'MWh' (Modules & System)	Global incident in coll. Plane (GlobInc) 'kWh/Sq.mtr' Yearly	Energy injected into grid (E_Grid) 'MWh' Yearly'A'
1	Degradation consider in Pvsyst generation data		
2	1.0%		
3	1.0%		
4	1.0%		
5	1.0%		
6	1.0%		
7	1.0%		
8	1.0%		
9	1.0%		
10	1.0%		
11	1.0%		
12	1.0%		



13	1.0%		
14	1.0%		
15	1.0%		
16	1.0%		
17	1.0%		
18	1.0%		
19	1.0%		
20	1.0%		
21	1.0%		
22	1.0%		
23	1.0%		
24	1.0%		
25	1.0%		

## SCHEDULE V

### Government approvals

1. To be obtained by the powerproducer

All approvals including approvals/consents required under local regulations, building codes and approvals required from the distribution utility etc. relating to installation and operation of the system and generation and supply of solar power from the Project.

2. To be obtained by PowerPurchaser

Any authorizations required of purchaser, including those required for installation of system at the premises. Permissions and coordination with DISCOM or any related organization for NET METERING. Power Purchaser will apply for net metering and bear the cost of net meter only.

NAME OF THE BENEFICIARY	
PRINCIPAL PLACE OF BUSINESS & ADDRESS	
NAME OF THE BANK	
BANK ADDRESS	
BANK ACCOUNT NO.	
TYPE OF BANK ACCOUNT - SB/CA/CC	
IFSC/NEFT/RTGS CODE	
MICR CODE	
PAN CARD NO.	
PHONE NO./FAX NO. WITH STD CODE	
EMAIL ID OF CONTACT PERSON	

**Performa-VIII**

**INFORMATION IN SUPPORT TO ELIGIBILITY CRITERIA FOR EXPERIENCE – SOLAR SYSTEMS/ PROJECTS COMMISSIONED IN LAST THREE YEARS ENDING ON 31ST MARCH, 2019**

**(Refer Clause ..... of Section.....)**

Name of Bidder -

Quantity/ capacity offered by the bidder..... KW

( name of the system/ project)

<b>S.No</b>	<b>Name of Customer/Organization</b>	<b>Capacity of GCRT solar power plant commissioned</b>	<b>Date of commissioning of system</b>	<b>Copy of Joint Commissioning Report</b>

**Performa IX**

Project Completion Report for Grid-Connected Rooftop			
Financial year * :			
Approval No. * :			
Proposal Title :			
Installed by agency :			
Project initiated by :			
Title of the Project* :		Capacity (kWp)*:	
Category of the organization / beneficiary* :		Name of the contact person* :	
Address of contact person* :			
State* :		District/City* :	
Mobile* :		Email* :	
Telephone No. :	STD code-	Website :	
Other info			
Electricity Distribution Company Name :			
Electricity consumer account no. as per electricity bill :		as on Date :	
Bank Details of Beneficiary			
Name of A/c holder :			
Name of Bank :			
Name of Branch and Address :			
Bank IFSC Code :			
9 Digit Micr Code :			
Type of Account :			
Account No. :			
Adhar /tan Number :			
Technology Description & System Design /Specification			
(Compliance to BIS/IEC Standards is mandatory)			
1. Module			
Capacity/Power of each PV Module(Wp)* :	1. Capacity/Power 2. Capacity/Power		1. Nos: 2. Nos:
Cumulative Capacity of Modules(KWp):			
Solar cell technology :			
Module efficiency (in Percentage) :			
2. Inverters			
Type of inverter :			
Make of inverter :			
Capacity/Power of each PCU/inverters (VA)* :	Capacity/Pow er Nos.		
Capacity/Power of PCU/inverters (KVA) :			
Inverter efficiency (Full load) :			
(in percentage)			

3. Metering Arrangement			
Details of Metering			
Type of Meter* :			
Make of Meter :			
5. Other informations			
Units of electricity generated by the solar plant as per meter (in KWh):			
Monitoring Mechanism :			
No. of personnel to be trained in O&M :			
Task & Expected Schedule(in Months) :			
Grid connectivity level			
Grid connectivity level phase* :		Grid connectivity level Voltage* :	
Costing of Project			
Hardware cost :	Rs.	Total Cost of Installation :	Rs.
Means of Finance			
Envisaged Central Financial Assistance from MNRE*	Rs.		
Incentive from states if any	Rs.		
Contribution of Beneficiaries*	Rs.		
Other Source (s) of Funding	Rs.		