



**Bihar Renewable Energy Development Agency**  
(A Government Agency under Energy Department)

Invites

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

**“Design, Supply, Installation, Testing & Commissioning of Grid Connected Rooftop Solar Photovoltaic (PV) Systems for Sale of Power under RESCO model for estimated 15MW capacity at various locations in Bihar”**

NCB No: BREDA/TENDER/SPV/GCRTPV/RESCO/1kWp-500kWp/04/2018-19

**Bihar Renewable Energy Development Agency (BREDA)**

(A Govt. Agency under Energy Department)

2<sup>nd</sup> Floor, Vidyut Bhawan, Building-II, South Wing,

Bailey Road, Patna- 800021, Bihar

Tele: No.: +91-612-2505734, Fax No: 91-612-2505572

Toll Free: - 18003456204

Website: [www.breda.bih.nic.in](http://www.breda.bih.nic.in),

Email: [breda@breda.in](mailto:breda@breda.in)

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Vidyut Bhawan, Building-II, 2<sup>nd</sup> Floor,  
Bailey Road, Patna- 800021, Bihar  
Tele: No.: +91-612-2505734, Fax No: 91-612-2505572  
Toll Free: - 18003456204

Website: [www.breda.bih.nic.in](http://www.breda.bih.nic.in), Email: [breda@breda.in](mailto:breda@breda.in)

(Through e-procurement mode only- [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in))

## NCB No: - BREDA/TENDER/SPV/GCRTPV/RESCO/1kWp-500kWp/04/2018-19

Bihar Renewable Energy Development Agency, a Government Agency under Energy Department of Bihar Government (hereinafter called “BREDA” or “OWNER”) invites Bids through E tendering Process National Competitive Bidding (NCB) from the Bidders fulfilling the Eligibility Criteria specified here under for **Design, Supply, Installation, Testing & Commissioning of Grid Connected Rooftop Solar PV Systems under RESCO model for Estimated 15 MW capacity including Net Metering Facility for 25 years at various locations in Bihar.** The Bidder should meet the following Eligibility Criteria in order to eligible for participating in this RFP:

S.N	Minimum Eligibility Criteria
1	The Bidder should be a body corporate incorporated in India under the Companies Act, 1956 or 2013 <b>Or</b> A Limited Liability Partnership Firm (LLP) registered under section 12 of Limited Liability Partnership Act, 2008 <b>Or</b> Partnership firm, registered under Partnership Act'1932 <b>Or</b> Proprietorship <b>Or</b> Joint Venture of two entities.
2	The minimum cumulative capacity to be quoted by the bidder must be at least 1 MW for each group. If offer quoted capacity by bidder is less than 1 MW, the bid will not be considered and it will not be further evaluated. (The minimum capacity quoted by the bidder shall be submitted specified in Section-VIII of this document.)
3	The Bidder should have designed, supplied, installed & commissioned at least one Grid connected Solar PV Power Project having a capacity of not less than 50 kW which should have been commissioned prior to Techno-Commercial Bid Opening date. (Required Document certified from SNA/Gov. Organization/SECI/DISCOM)
4	Bidder should have Minimum Average Annual Turn Over in the best 3 out of last 5 Financial Year as INR 2 Cr/MW (subject to quote offered in the Bid by the Bidder) (The bidder should submit Audited Financial Statement and balance sheet for last 5 years to this effect).
5	Bidder or lead member of Joint Venture should have INR 1 Cr/MW Net worth in the latest two financial
6	Bidder should have valid GST registration certificate
7	Bidder or any member of Joint Venture should not have been black listed by any Government Department, Organization, Agency, Authority or any Public Sector Undertaking owned by the Government during the last three years as on the date for Bid submission.

❖ The Financial Bid of only those bidders shall be open who qualify in “Minimum Eligibility Condition” as above

## **BID INFORMATION SHEET**

Sl. No.	Activity	Duration
1.	Online Sale / Download date of Tender documents	Upto 01.02.2019 (18:00 Hrs)
2	Cost of Bidding Document <b>(Submission of cost of bidding document is mandatory for all bidders).</b>	<b>Non-Refundable</b> INR 50000.00 to be paid through (Demand Draft (DD) in favor of Bihar Renewable Energy Development Agency" payable at Patna. (Bank details: - A/c No. - 50091813870, Allahabad Bank, Patna Main Branch, IFSC CODE: -ALLA0210003). Separate Tender processing fee of Rs. 1180/- to be paid through online mode i.e. internet payment gateway (Debit/credit card, Net banking, NEFT, RTGS).
3.	Bid Security (EMD) <b>(submission of EMD is mandatory for all bidders)</b>	INR 2.75 lack per Mega Watt (MW) as per Bidder quotes, in form of a Demand Draft (DD) from any Nationalized /Scheduled Commercial Bank.
4.	Pre-bid conference-I	16.01.2019 at 11.00 Hrs. (Bihar Renewable Energy Development Agency", 2 <sup>rd</sup> Floor, "Vidyut Bhawan", Building-II, South Wing, Bailey Road, Patna – 800021.)
5.	Pre-bid conference-II	21.01.2019 at 11.00 Hrs. (Bihar Bhawan, Chankya Puri, New Delhi)
6.	Date / Time for online submission/ uploading of offer/Bid (Online)	02.02.2019 up to 16:00 Hrs. ( <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )
7.	Submission of Tender Document Fee, EMD in DD and Tender Document with Relevant Test Report & Certificate in Hard Copy/ Original	04.02.2019 at 14:00 Hrs (Demand Draft (DD)) in favour of Bihar Renewable Energy Development Agency" payable at Patna. (Bank details: - A/c No. - 50091813870, Allahabad Bank, Patna Main Branch, IFSC CODE: - ALLA0210003).
8.	Date & time for opening of Technical Bid	04.02.2019 at 15:30 Hrs. ( <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )
9.	Validity of Bid	180 days from the date of opening of Financial Bid.
10.	Date time and place of opening of Financial Bid	To be informed later after technically qualified bidder. <b>(<a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a>)</b>

Bid documents which include Eligibility criteria, "Technical Specifications", various conditions of contract, formats, etc. can be downloaded from website [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in). Any amendment (s) / corrigendum / clarifications with respect to this Bid shall be uploaded on [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) website only. The Bidder should regularly follow up for any Amendment / Corrigendum / Clarification on the above website.

1. **Bidders are required to submit the documentary proof for the qualifications mentioned above.**
2. **Notwithstanding anything stated above, BREDA reserves the right to assess the capabilities and capacity of the Bidder to perform the Contract, the circumstances warrant such assessment in the overall interest of BREDA.**
3. **Joint Venture of maximum two companies is allowed.**
4. **The bidders are required to submit documents as mentioned below:**
  - ✓ **Envelope I containing Cost of Bidding document(in the form of DD) & Covering Letter;**
  - ✓ **Envelop II containing EMD(in the form of DD);**
  - ✓ **Envelope III containing signed tender document;**
  - ✓ **Envelop IV containing Envelop I, Envelope II and Envelop III**

**All documents must be received by BREDA not later than the time and date stated in the Invitation for Bid (IFB). Each Envelops should be duly sealed, stamped and marked with NCB Number and should be subscribed on the envelop as "Request for Proposal for Selection of Bidders for Design, Supply, Installation, Testing & Commissioning of Grid Connected Rooftop Solar PV Systems under RESCO model for Estimated 15 MW capacity including Net Metering Facility for 25 years at various locations in Bihar".**

**All formats and relevant documents as required in the RFP shall be spiral bounded and should be flagged and page number with proper seal & signature on each page. Details of flag should be mentioned in the covering letter.**

5. For support related to e-tendering process, bidders may contact at following address "e- Procurement HELP DESK, First Floor, Plot No.- M/22, Road No.-25, Sri Krishna Nagar, Bank of India Compound, Patna-800001, Contact No: 0612-2523006; 7542028164". Vendor may visit [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).
6. Detailed NIT/RFP can be seen at website- [www.breda.bih.nic.in](http://www.breda.bih.nic.in) or [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).
7. For participating in e-tendering process, the contractor shall have to get them registered to get user ID, Password and digital signature at [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in). This will enable them to access the website [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) and download/participate in e-tender. Those whose are not registered in e-tendering systems, they may contact "e-Procurement HELP DESK, First Floor, Plot No.- M/22, Road No.-25, Sri Krishna Nagar, Bank of India Compound, Patna-800001, Contact No: 0612-2523006; 7542028164" for registration.

8. BREDA will not be responsible, in case of any delay, due to any reason whatsoever, in receipt of Bid Documents.
9. The BREDA reserves the right to reject any or all Bids or cancel/withdraw the Invitation for Bids (IFB) without assigning any reason whatsoever and in such case, no Bidder/ intending Bidder shall have any claim arising out of such action.
10. BREDA intends to undertake a competitive bidding process in order to shortlist and qualify suitable Bidder, who shall be eligible for evaluation of their price bids towards selection of the successful bidder in terms of the RFP for award of the project.
11. The successful Bidder, at the end of the bidding process, shall be awarded the contract by BREDA to implement the project on EPC basis. The Contractor (the successful Bidder) shall be responsible for design, engineering, procurement, construction and maintenance of the project in terms of the agreement to be signed between the contractor and BREDA. Further, the contractor shall be responsible for remedying all defects and deficiencies.
12. The detail of the bidding process and summary of the scope of construction works for the project is included in the RFP document.

### **13. Essential Requirement**

- i. In the unlikely event of the server for [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) being down for more than two consecutive hours (in the period from midnight to closing time for receipt of tenders) on the last date of receiving of bid, the last date of the same shall be extended by concerned authority only to the next working day till the last receiving time stipulated in the original NIT.
- ii. The bidders are requested to check their file size of uploaded documents at the time of submission & they should ensure that work file is uploaded. If they feel that the complete file is not uploaded then they should click on cancel & update the same before submission. The bidders should satisfy themselves of download ability/ visibility of the scanned & uploaded file by them.
- iii. The bidders must use MS Office- 2003 version. File size should be less than 5MB and should be in M.S. word, M.S. Excel, PDF and JPEG Formats.
- iv. No claim shall be entertained on account of disruption of internet service being used by bidders. Bidders are advised to upload their bids well in advance to avoid last hour's technical snags.
- v. In exceptional circumstances, the competent authority, BREDA may solicit the Bidder's consent to an extension of the period of validity.
- vi. Bids that are rejected during the bid opening process shall not be considered for further evaluation, irrespective of the circumstances.
- vii. The bidders shall submit their eligibility and qualification details, financial bid etc., in the online standard formats given for respective tenders in e-Procurement website ([www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in)) at the respective stage only.
- viii. The bidders shall upload the scanned copies of all the relevant certificates, documents etc., in support of their eligibility criteria and other certificate /documents in the e-Procurement website with sign and seal.
- ix. The bidder shall sign on the supporting statements, documents, certificates, uploaded by him, owning responsibility for their correctness /authenticity.
- x. Corrigendum/ Addendum, if any, will be published on the eproc website.

***Bid along with required documents must be uploaded at e-procurement website i.e. [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) and must be submitted in hard copy at the following address:***

2<sup>rd</sup> Floor, Vidyut Bhawan, Building-II,  
South Wing, Bailey Road, Patna- 800021, Bihar  
Tele: No.: +91-612-2505734, Fax No: 91-612-2505572  
Toll Free:- 18003456204

**Website:** [www.breda.bih.nic.in](http://www.breda.bih.nic.in), Email: [breda@breda.in](mailto:breda@breda.in)

The Bids will be evaluated by the **BREDA Management Committee** for approval and selection.

**Deputy Director,  
BREDA, Patna**

## **DISCLAIMER**

1. Though adequate care has been taken while preparing the RFP document (inclusive of Formats and Annexure), 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. BREDA 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 [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) web-site for updated information. BREDA is not obligated to send/ communicate separate notifications for such notices/ amendments/ clarification etc. in the print media or individually. BREDA shall not be responsible and accountable for any consequences to any party.
3. While this RFP has been prepared in good faith, neither BREDA 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, Income Tax Act, and the rules or regulations as per applicable Acts.

## 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. **“B.I.S” shall mean specifications of Bureau of Indian Standards (BIS);**
2. **“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;**
3. **“Bidder(s)” shall mean bidding Company or Joint Venture in any form submitting the Bid. Any reference to the Bidder includes its successors, executors and permitted assigns as the context may require;**
4. **“Bidding Joint Venture or Joint Venture” shall refer to a group of bidding Company that has collectively made a Bid, in response to RFP for the project.**
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 as per clause 3.0;**
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, adjusted to seasonality as per provisions of Clause 3.3.1.**
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 of BREDA, 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 as per provisions of clause 3.3.**
12. **“Commissioning” shall mean demonstration of successful operation of the Grid Connected Project or part thereof, in accordance with prevailing regulations and clause 6.10, by the Power Producer;**
13. **“Commercial Operation Date” or “COD” shall mean Day when full PPA 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 Levelized 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. “**IEC**” shall mean specifications of International Electro-technical Commission;
24. “**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;
25. “**Inspecting Authority**” shall mean the authority designated by the competent authority for the said purpose;
26. “**kWp**” shall mean Kilo Watt Peak;
27. “**kWh**” shall mean Kilo Watt Hour;
28. “**Lead Member**” shall mean the member of Bidding Joint Venture which is designated as leader of the Joint Venture by other member to represent them as Bidder for this RFP;
31. “**MNRE**” shall mean Ministry of New and Renewable Energy, Government of India;
32. “**Month(s)**” shall mean a calendar month as per the Gregorian calendar;
33. “**MWp**” shall mean Mega Watt Peak;
34. “**Nodal Agency**” shall mean the Bihar Renewable Energy Development Agency (BREDA), Bihar;
35. “**LoA**” shall mean the Letter of Acceptance to successful bidder;
36. “**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;
37. “**Part Commissioning**” shall mean the Commissioning of capacity lower than the PPA capacity for the purpose of receiving the Commissioning certificate for part capacity;
38. “**Performance Test**” shall mean such tests which establish successful installation and working of equipment at desired level as per the requirement of issuing authority;
39. “**Power Producer**” shall mean anyone who has accepted the Letter of Acceptance (LoA) 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;
40. “**Power Purchase Agreement or PPA**” shall mean the Power Purchase Agreement to be executed between Power Producer and the Procurer.
41. “**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;
42. “**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;
43. “**Procurer(s)**” shall mean the person or company or organization or Govt. Department of Bihar procuring solar power from the Power Producer at competitively determined tariff under the RFP and the PPA;
44. “**Project(s)**” shall mean the Grid Connected Solar PV Project(s);
45. “**Project Capacity**” means the capacity of the Projects mentioned in the Agreement. The Project capacity specified is on “DC” Side only;
46. “**Project Group(s)**” shall mean a group of Project(s) as per Clause 6.0.1 of this RFP;
47. “**Project Company**” shall mean Company incorporated by the Bidder as per Indian Laws ;
48. “**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;
49. “**Qualified Bidder(s)**” shall mean, for given scope of work, the Eligible Bidder having quoted minimum Financial Bid in each category;
50. “**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;
51. “**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;.



52. **“RFP”** shall mean Request for Proposal (RFP)/Bid document/Tender document and shall include formats and Annexures in it;
53. **“Scheduled Commercial Operation Date” or “SCOD”** shall mean 4 months from the PPA Signing date i.e., Effective Date as defined in PPA; including the extensions, if any, granted as per 3.13.
54. **“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;
55. **“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 Letter of Acceptance (LoA) has been issued;
56. **“Term of PPA”** shall mean the period from the Effective Date until the Expiry Date;
57. **“Year”** shall mean 365 Days or 366 Days in case of leap year when February is of 29 Days;

## **INTERPRETATIONS**

1. Words comprising the singular shall include the plural & vice versa
2. An applicable law shall be construed as reference to such applicable law including its amendments or re-enactments from time to time.
3. A time of day shall save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.
4. Different parts of the contract are to be taken as mutually explanatory and supplementary to each other and if there is any differentiation between or among the parts of the contract, they shall be interpreted in a harmonious manner so as to give effect to each part.
5. The table of contents and any headings or sub headings in the contract has been inserted for case of reference only & shall not affect the interpretation of this agreement.

## SECTION-I

### 1. INTRODUCTION, BID DETAILS

#### 1.1. INTRODUCTION

- 1.1.1 Request for Proposal for Selection of Power Producer for Implementation of estimated 15 MW capacity of Grid Connected Roof Top Solar PV Systems for Sale of Solar Power under RESCO Model at various locations in Bihar, in accordance with MNRE/ concerned distribution licensee/BERC norms.
- 1.1.2 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.
- 1.1.3 The Bidder is advised to read carefully all instructions and conditions of this RFP and understand the scope of work completely. All information and documents required as per the RFP must be furnished with the bid. BREDA reserves the right to seek clarifications on submitted bids. Failure to provide the information and/or documents as required shall render the Bid(s) unacceptable for further evaluation and may lead to rejection of the bid(s). All bidders qualifying the technical stage shall be treated at par. Financial Bid of the Bidder qualifying at technical stage only shall be opened.
- 1.1.4 Bidder shall be deemed to have examined the RFP, to have obtained information in all matters whatsoever that might affect carrying out of works in line with the scope of work specified in the RFP at the Bid price and to have satisfied himself of the sufficiency of his Bid. The Bidder shall be deemed to know the scope, nature and magnitude of the works and requirement of materials, equipment, tools and labour involved, wage structures and as to what all works Power Producer shall have to complete in accordance with the RFP, irrespective of any defects, omissions or errors that may be found in RFP. It is assumed that Bidder has satisfied himself with the site conditions at the Premises of Procurer and has assessed the quantum of work required to comply with the RFP and PPA conditions.

#### 1.2. BID DETAILS:

- 1.2.1 The bidding process is for approximate fifteen (15) MWp capacities of Projects under RESCO model for Implementation of Grid Connected Roof Top Solar PV Systems for Sale of Solar Power under RESCO Model at various locations in Bihar. Bidders are advised to note that the Grid connected projects shall be net metered systems.

#### 1.2.2 Bids for RESCO Model:

Bids are invited from the prospective bidders for the tentative Tendered Capacity of 15 MWp. Bidders will be required to furnish Levelized tariff for 25 years starting from the date of commissioning of the Project. Tariff stream quoted by the bidder shall be Levelized with a discounting rate of 11 % and an increase of 3% every year. Capacity will be allocated based on the lowest Levelized tariff for 25 years quoted by the bidder.

SL No.	Name of Project Group	Levelized Tariff for 25 Years including all taxes, duties & charges (Rs/kWh)
1	Govt. Building of Patna Capital	
2	Health Department	
3	Other Govt. Building in Bihar	

- 1.2.3 Maximum allowable Levelized tariff for 25 years cost for RESCO Model is at the rate of **Feed in Tariff (FiT) at the time of bid submission (As per latest BERC defined tariff) and the bids with tariff more than Feed in Tariff (FiT) will not be considered for evaluation and award.**

Tariff stream quoted by the bidder shall further confirm to the following:

- i. The Levelized tariff of 25 years shall remain firm and fixed.

- ii. The Levelized tariff shall be decrease by 3.30 paisa per unit for every 1% of eligible capital subsidy, if any.

### **1.3 Conditions Precedent**

#### **1.3.1 Conditions Precedent for Procurer:**

- 1.3.1.1 Procurer shall allocate sufficient shadow free space in its Premise, within fifteen (15) Days from receipt of confirmation on LoA from the Successful Bidder, and provide last twelve (12) Months electricity bills (at least of six (6) Months), to the Successful Bidder. During fifteen (15) Days, Procurer shall allow Successful Bidder to visit the Premise for assessment of required space and locating the proposed project. Minimum space provided by Procurer shall be based on 10 square meter per kWp.
- 1.3.1.2 On allocating enough space for installation of Project, Successful Bidder may ask for a change in location within Premise, but final decision on the location shall be taken by Procurer and it shall be binding on Successful Bidder.
- 1.3.1.3 Procurer and Successful Bidder should inform BREDA in writing, about the space provided for Project implementation within 15 Days from receipt of confirmation on LoA.
- 1.3.1.4 PPA shall be signed by the Procurer with Successful Bidder within ten (10) Days from the submission of CPG by successful bidder to BREDA any delay beyond 60 Days in signing PPA with the Successful Bidder, Procurer's Project shall be excluded from further deliberations.

#### **1.3.2 Conditions Precedent for Successful Bidder:**

- 1.3.2.1 Confirmation on acceptance of LoA within 14 Days from the date of issuance of LoA. Within 15 days after conforming LoA, the Successful Bidder shall undertake Site Survey, assess free capacity of the concerned DT, analyze last twelve (12) Months electricity bills (at least six (6) Months) received from Procurer, and submit the letter of request for change in PPA Capacity (if any, with due analysis) to BREDA, copying Procurer.
- 1.3.2.2 PPA Capacity of Project under each category may increase or decrease, subject to BREDA's decision on analysis proposed by the Successful Bidder. However, change in PPA Capacity may lead to change in Subsidy available for Project.
- 1.3.2.3 BREDA shall communicate to Successful Bidder any change in PPA Capacity within ten (10) Days from the submission of the site survey report and letter of request.
- 1.3.2.4 Submission of CPG shall be within fifteen (15) Days from the confirmation by BREDA on the PPA Capacity.

## SECTION-II: INSTRUCTIONS TO THE BIDDERS

### 2.1 INSTRUCTIONS TO THE BIDDER:

- 2.1.1 Bidder shall meet the Eligibility Criteria. In case of Joint Venture, Lead Member must independently meet the Financial Eligibility Criteria. Joint Venture of maximum of two companies is allowed under RFP and lead member should have at least 60% holding in JV.
- 2.1.2 Further, Bidder must note that for evaluation of qualification against Financial Eligibility Criteria, following conditions shall be applicable:
- Bidder shall establish Minimum Average Annual Turn Over as required by this RFP.
  - In-case Bidder / Lead Member of Joint Venture at least 60% of lead the relationship with the Affiliate shall continue i.e., equity holding should be more than 26% during the validity period of Bid.
- 2.1.3 A Bidder shall not have a conflict of interest for the bid Project. Bidder(s) shall be disqualified in the Project(s) where it has conflict of interest.
- 2.1.4 BREDA have rights to annul/cancel the Bid of Bidders who will take any assistance or support in any form from any of the independent consultant or consulting agency who is directly associated with Nodal Agency during preparation of RFP and PPA.
- 2.1.5 The Bidders shall have to submit their Financial Bid and other required relevant documents/certificates, if any, online only (duly encrypted bids) as per time schedule (Key dates) as mentioned in Bid Information Sheet. Technical bid containing original (downloaded) RFP, relevant document/certificates etc. duly sealed and signed and Bid Security should reach to the office undersigned by the Key Dates.

### 2.2 GENERAL ELIGIBILITY CRITERIA

- 2.2.1 The Bidder should have positive (+ve) Net worth, subject to provisions of clause 5 of minimum eligibility criteria. In case of Joint Venture, Net worth should be fulfilled by Lead member only.
- 2.2.2 The Computation of Net worth shall be based on latest available stand alone audited annual accounts but not older than two (2) Years. Share premium can be included in the Net worth calculation only in case of listed companies in India. The formula of calculation of net-worth shall be as follows:
- $$\text{Net-worth} = (\text{Paid up share capital}) + \{(\text{Free reserves} - \text{Share premium}) + \text{Share premium of listed companies}\} - (\text{Revaluation of reserves}) - (\text{Intangible assets}) - (\text{Miscellaneous expenditure to the extent not written off and carry forward losses})$$
- 2.2.3 All requisite documents, such as balance sheet, P&L account, schedules etc., duly certified by a Chartered Accountant (CA) and the Bidder, in support of Bidder claim for meeting the financial eligibility criteria shall be required to be submitted.
- 2.2.4 It is essential to submit financial eligibility criteria requirement and undertaking form as attached in FORMAT 7 and FORMAT 9 of this RFP document.
- 2.2.5 For the purposes of meeting financial requirements, only stand alone audited annual accounts shall be used. However, audited consolidated annual accounts of the Bidder may be used for the purpose of financial requirements provided the Bidder has at least twenty six percent (26%) equity in each company whose accounts are merged in the audited consolidated accounts.
- 2.2.6 Bidder shall furnish documentary evidence as per the FORMAT 8, duly certified by Authorized Signatory and the Statutory Auditor / Practicing Chartered Accountant of the Bidder in support of their financial capability”.
- 2.2.7 In case of Joint Venture, Financial Eligibility Criteria has to be met individually by Lead Member.
- 2.2.8 Bidders shall have to give a declaration to the effect that they fulfill the terms and conditions of eligibility as per FORMAT 10. If the declaration to above effect is found to be false, the eligibility would be considered null and void.

### 2.3 CHECK-LIST:

- 2.3.1 To ensure that the online and hard copy submission of RFP is complete in all respects, check-lists for Envelope- I, Envelope- II and Envelope- III are required to be duly tick marked/filled for the enclosures which are attached with the RFP document. The main envelope should only contain Envelope- I, Envelope- II and Envelope- III in sealed condition. The requisite documents required are

indicated in the check-lists. It is essential for the Bidders to submit check-lists duly sealed and signed with its corresponding envelope. However, this Check-List is indicative and Bidder shall be responsible for meeting all information requirements as per provisions of this RFP.

#### **2.4 BID SUBMISSION BY THE BIDDER:**

- 2.4.1 The information and /or documents shall be submitted by the Bidder as per the formats specified in this RFP.
- 2.4.2 Bid(s) that are incomplete in any respect or those that are not consistent with the requirements as specified in this RFP or those that do not adhere to formats prescribed herein, wherever specified, may be considered non-responsive. However, BREDA reserves the right to seek additional information/clarifications from the Bidders, if found necessary, during the course of evaluation / processing of the Bid(s). Non-submission or delayed submission of such additional information or clarifications sought by BREDA may be a ground for rejecting the Bid(s). Each format has to be duly signed and stamped by the authorized signatory of the Bidder. In case of a Joint Venture, it has to be signed by representative of the Lead Bidder. Strict adherence to the documents required to be submitted in Envelope – I, as per clause 2.6.1 shall be ensured, failure on this account may lead to rejection of Bid.
- 2.4.3 The Bidder shall furnish documentary evidence in support of meeting eligibility criteria as indicated in this RFP to the satisfaction of BREDA and shall also furnish unconsolidated/ consolidated audited annual accounts in support of meeting financial requirement, which shall consist of unabridged annual accounts, profit and loss account, profit appropriation account, auditor's report, etc., as the case may be.
- 2.4.4 The Bidding Company should designate one person to represent the Bidding Company in its dealings with BREDA. The person should be authorized to perform all tasks including, but not limited to providing information, responding to enquires, signing of Bid etc. The Bidding Company should submit, along with Bid, a Power of Attorney in original as per FORMAT 6, authorizing the signatory of the Bid.

#### **2.5 CLARIFICATIONS AND PRE-BID MEETING:**

- 2.5.1 The Bidder may seek clarifications or request amendments to RFP in writing, through a letter or by fax (and also soft copy by e-mail) to reach BREDA at the address, date and time mentioned in Bid Information Sheet.
- 2.5.2 The Bidder(s) or their authorized representative(s) is /are invited to attend pre-bid meeting(s), which will take place on date(s) as specified in Bid information Sheet, or any such other date as notified by BREDA.
- 2.5.3 The purpose of the pre-bid meeting will be to clarify any issues regarding the RFP including in particular, issues raised in writing and submitted by the Bidder.
- 2.5.4 BREDA is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.

#### **2.6 BID DOCUMENTS:**

2.6.1 **BID FORMATS:** The Bid in response to this RFP shall be submitted by the Bidder in the manner provided in the RFP. The Bid shall comprise of the following:

- a) **ENVELOPE- I (COVERING LETTER, BID PROCESSING FEE AND BID SECURITY):** The following documents are to be submitted in physical (hard copy):
1. Covering Letter as per prescribed FORMAT 1.
  2. Cost of Bidding Document,
  3. EMD of required value as mentioned in Clause 3.0.1.

**ENVELOPE- II TECHNICAL DOCUMENTS:** The following documents are to be submitted in physical (hard copy):

- Original power of attorney (on the stamp value of Rs.1000/-, as per FORMAT 6) issued by the Bidder in favour of the authorized person signing the Bid, in the form prescribed in this RFP (Power of Attorney must be supplemented by Board Resolution to above effect for the company incorporated under Company Act 1956 or Company Act-2013).
- General particulars of Bidder as per FORMAT 2 of this RFP, including Certificate of Incorporation of Bidder/ Affiliate as applicable.
- Bidder's composition and ownership structure as per prescribed FORMAT 3 as shareholding certificate certified by Director/practicing Chartered Accountant/Company Secretary and authorized signatory of the Bidder (as applicable).
- FORMAT 7 for meeting Financial Eligibility Requirements along with all supporting documents.
- Undertaking(s) from the member of Joint Venture or Bidder/ member of Joint Venture as per

FORMAT 9, as applicable.

- FORMAT 8 for Joint Venture Agreement, if applicable.
- FORMAT 10 on Declaration for submission of Bid.
- Signed and stamped Copy of RFP including amendments & clarifications by authorised signatory of Company on each page.
- Signed and stamped copy of minutes of pre-bid meeting

#### 2.6.2 METHOD OF BID SUBMISSION

- a) Bidders are required to submit technical bid, along with all relevant documents as detailed in Clause 2.6.1 and 2.6.2, in respective envelopes sealed under a single cover envelope. They shall be submitted through online mode and as well as physical form on or before the Bid Deadline:-  
Envelope-I (Covering Letter, Bid Processing Fee & Bid Security (EMD))  
Envelope-II (Financial Eligibility Documents)
- b) Financial Bid shall be submitted only through online mode with due encryption.

2.6.3 The Bidder has the option of sending technical bid (Envelope I & Envelop II) either by registered post or speed post or by hand delivery, so as to reach BREDA by the Bid Deadline. BREDA shall not be responsible for any delay in receipt of the technical bid (Envelope I & Envelop II). It should be noted that except online Financial Bid, no other envelope/ document shall contain and information/document relating to Financial Bid. BREDA shall not be responsible for premature opening of the Financial Bid in case of non-compliance of above.

2.6.4 All pages of the Bid, except for the Bid Security, and any other document executed on non-judicial stamp paper, forming part of the Bid and corrections in the Bid, if any, must be signed by the authorized signatory on behalf of the Bidder. In case of a Joint Venture, it has to be signed by representative of the Lead Bidder. It is clarified that the same authorized signatory shall sign all pages of the Bid. Further, any published document submitted with the Bid shall be signed by the authorized signatory. Bidder shall submit the Bid in original, duly signed by their authorized signatory of the Bidder.

#### 2.7 BID DEADLINE:

2.7.1 The Bidder should submit the online and hard copy Bid on or before the time schedule mentioned in Bid Information Sheet.

#### 2.8 VALIDITY OF BID:

2.8.1 The bid shall remain valid for a period of one hundred and eighty (180) Days from the date of Financial Bid Opening. In case, Successful Bidder is revoking or cancelling his offer or varying any term & conditions in regard thereof or not accepting Letter of Acceptance (“LoA”), BREDA shall forfeit the Bid Security furnished by the Bidder. The date of issuance of LoA shall be intimated by the BREDA to the Successful Bidder. In exceptional circumstances when LoA is not issued, the BREDA may solicit the Bidder's consent to an extension of the period of Bid Validity Period.

#### 2.9 COST OF BIDDING:

2.9.1 The Bidder shall bear all the costs associated with the preparation and submission of his offer and BREDA will in no case be responsible or liable for those costs, under any conditions. The Bidder shall not be entitled to claim any costs, charges and expenses of and incidental to or incurred by him through or in connection with submission of Bid even though BREDA may elect to modify/ withdraw the invitation of Bid.

#### 3.0 BID SECURITY (EMD):

3.0.1 **The Bidder shall furnish the Interest free EMD @ Rs. 2.75 Lakh/MW (Rupees Two Lakh Seventy Five Thousand only)** in the form of Crossed Demand Draft / Bank Guarantee drawn in favour of “**Bihar Renewable Energy Development Agency**”, payable at **Patna**. The EMD of unsuccessful bidders shall be returned promptly after the date of issue of Letter of Acceptance(s) to successful bidders and EMD of successful shall be returned after submission of CPG.

3.0.2 The Bid Security shall be denominated in Indian Rupees and:

- a) Bid Security should be confirmed for payment to BREDA by respective banks.
- b) Bid Security shall be submitted in its original form and copies will not be accepted.

3.0.3 The Bid Security shall be forfeited without prejudice to the Bidder being liable for any further consequential

loss or damage incurred to BREDA under following circumstances:

- a) If a Bidder withdraws/revokes or cancels or unilaterally varies his bid in any manner during the period of Bid Validity specified in the RFP document.
- b) If Successful Bidder fails to fulfill its Conditions Precedent as specified in clause 1.3.2.
- c) If Successful Bidder fails to sign the PPA within the indicated time.

### **3.1. BANK GUARANTEES**

3.1.1 Contract Performance Guarantees (CPG):

3.1.2 The Successful Bidder shall furnish CPG at rate of Rs 2500/- per kWp from a nationalized/scheduled bank in the form of Bank Guarantee as per prescribed FORMAT 4.

3.1.3 Submitted CPG shall be valid for a period of Eighteen (18) Months from the date of work order with a further claim period of six (6) Months. The Successful Bidder shall furnish CPG within fourteen (14) Days from the date of intimation of work order and before the signing of PPA,. Failure to submit CPG, as above, without sufficient justification acceptable to the Nodal Agency, shall be considered as refusal to execute the PPA and Nodal Agency shall have right to forfeit the Bid Security.

3.1.4 In case of delay in signing of PPA, of more than two (2) Months, from the submission of CPG, Nodal Agency shall cancel the issued LoA and release the CPG within fifteen (15) days from the cancellation of LoA.

3.1.5 Further, in case of delay in achieving/fulfilling any milestone as mentioned in COD Schedule or as per Conditions Subsequent of PPA, CPG shall be forfeited.

### **3.2. LIQUIDATED DAMAGES:**

3.2.1 In case of natural calamity or any reason beyond the control of Power Producer or unavoidable circumstances, the work is not completed within the given timeframe, BREDA may consider grant of extension after the reason submitted by Power Producer are found to be satisfactory. If the Power Producer fails to execute the work and Commission the project on or before the SCOD, Nodal Agency shall have the right to revoke the CPG at 5% of CPG value per week from the SCOD subject to maximum of twenty (20) weeks delay. In case of delay beyond extended timeline of twenty (20) weeks, Nodal Agency may

- a) Allow Power Producer to work with additional penalty up to ten (10) more Weeks. Power Producer shall be required to submit additional C-PBG of 50% of earlier C-PBG value. LD of 5% of additional C-PBG per week or part thereof shall be levied on Power Producer.
- b) Cancel the PPA and Power Producer shall be liable to pay Liquidated Damages to the Nodal Agency.

### **3.3. PERFORMANCE MONITORING MECHANISM AND PENALTIES FOR UNDER**

#### **PERFORMANCE:**

3.3.1 The Power Producer shall demonstrate that the said project delivers Capacity Utilization Factor (“CUF”) of at least 15%.

3.3.2. Power Producer shall ensure that all Projects are Remote Monitoring System (“RMS”) enabled. The data from such RMS enabled Projects would be monitored or analyzed remotely by Nodal Agency, independently or at its Centralized Monitoring Centre, to ensure desired level of performance. The Power Producer shall ensure and shall have no objection to provide access to RMS for data acquisition and monitoring the performance of Project(s) by Nodal Agency. The Power Producer shall support Nodal Agency in establishing technical handshake between RMS and the Centralized Monitoring Centre being established by Nodal Agency. The Power Producer shall ensure that the connectivity of the Project with the Centralized Monitoring Centre of Nodal Agency is uninterrupted at all times during O&M period and shall make all necessary arrangements for the same. Nodal Agency or its authorized agency reserves right to validate the authenticity of such data for which Power Producer shall extend full access and its cooperation.

### **3.4. OPERATION AND MAINTENANCE:**

3.4.1 During the course of twenty five (25) Operational Years, the Power Producer (s) will service and maintain the system including replacement of the product, as per Prudent Utility Practices. The Power Producer will have to arrange all required instruments, tools, spares, components, manpower and other necessary facilities at his own cost. It is advisable for the Bidder to ensure proper arrangements for cleaning of panels (at least 16 cycles in a Year and Year must exclude June to September period) in order to maintain the requisite performance expectations.



### **3.5. POWER PRODUCER'S DEFECT LIABILITY:**

- 3.5.1 If it shall appear to the Nodal Agency that any supplies have been executed with unsound, imperfect or unskilled workmanship, or with materials of any inferior quality, the Power Producer shall forthwith rectify or remove and replace that item so specified and provide other proper and suitable materials at its own charge and cost if so desired by Nodal Agency in writing.
- 3.5.2. The Power Producer shall also be undertaking the operation and maintenance of the project and consequently shall be required to rectify any defects that emerge during the operation & maintenance of the Project for the entire term of the PPA.
- 3.5.3 The Contractor warrants that the Plant or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant supplied and of the work executed. The Defect Liability Period shall be eighteen (18) months from the date of satisfactory commissioning of the Plant. If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with BREDA regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good as BREDA shall determine at its discretion, such defect as well as any damage to the Plant caused by such defect.

### **3.6. OPENING OF BID:**

- 3.6.1. Technical bid (Envelope I and Envelope II) of the Bidder shall be opened at the time mentioned in Key Dates at the venue indicated in this RFP, in the presence of one representative from each of the Bidder who wish to present.
- 3.6.2. Name of the Bidder, Bid Security and Project category shall be read out to all the Bidder at the time of opening of Envelope-I.

### **3.7. RIGHT TO WITHDRAW THE RFP AND TO REJECT ANY BID:**

- 3.7.1 This RFP may be withdrawn or cancelled by the Nodal Agency at any time without assigning any reasons thereof. The Nodal Agency further reserves the right, at its complete discretion, to reject any or all of the Bids without assigning any reasons whatsoever and without incurring any liability on any account.
- 3.7.2 The Nodal Agency reserve the right to interpret the Bid submitted by the Bidder in accordance with the provisions of the RFP and make its own judgment regarding the interpretation of the same. In this regard the Nodal Agency shall have no liability towards any Bidder and no Bidder shall have any recourse to the Nodal Agency with respect to the selection process.
- 3.7.3 Bid(s) that are incomplete in any respect or those that are not consistent with the requirements as specified in this RFP or those that do not adhere to formats prescribed herein, wherever specified, may be considered non-responsive. However, Nodal Agency reserves the right to seek additional information/ clarifications from the Bidders, if found necessary, during the course of evaluation / processing of the Bid(s). Non-submission or delayed submission of such additional information or clarifications sought by Nodal Agency may be a ground for rejecting the Bid(s). Strict adherence to the documents required to be submitted in Envelope – I, as per clause 2.6.1 shall be ensured, failure on this account may lead to rejection of Bid.
- 3.7.4 Nodal Agency reserves its right to vary, modify, revise, amend or change any of the terms and conditions of the RFP before Bid Deadline. The decision regarding acceptance of Bid by Nodal Agency will be full and final.

### **3.8. ZERO DEVIATION:**

- 3.8.1 This is a zero deviation bidding process. Bidder is to ensure compliance of all provisions of the RFP and submit their Bid accordingly. Bid with any deviation to the RFP conditions shall be liable for rejection without any explanation.

### **3.9. EXAMINATION OF BID DOCUMENT:**

- 3.9.1 Before submission of Bid, Bidder is required to carefully examine the technical specification, terms and conditions of RFP/ Agreement, and other details relating to envisaged work as per the RFP.

3.9.2. The Bidder shall be deemed to have examined the RFP and Agreement, to have obtained information on all matters whatsoever that might affect the execution of the Project activity and to have satisfied himself as to the adequacy of his Bid. The Bidder shall be deemed to have known the full scope, nature and magnitude of the work and related supplies and the requirements of material and labour involved etc. and as to all supplies he has to complete in accordance with the RFP.

3.9.3 Bidder is advised to submit the Bid on the basis of conditions stipulated in the RFP. Bidder's standard terms and conditions, if any for what-so-ever reasons, will not be considered. The cancellation / alteration / amendment / modification in RFP shall not be accepted by Nodal Agency and shall invite rejection of such Bid(s).

3.9.4 Bid not submitted as per the instructions to Bidder is liable to be rejected. Bid shall confirm in all respects with requirements and conditions referred in this RFP or its amendments, if any.

3.9.5. The Comprehensive O&M of solar PV system shall include wear, tear, overhauling, machine breakdown, appropriate insurance (if and as required), and replacement of defective modules, invertors / Power Conditioning Unit (PCU), spares, consumables & other parts for a period of twenty five (25) Operational Years.

### **3.10. TAXES AND DUTIES:**

3.10.1. The Financial Bid should include all taxes and duties etc., if any. Power Producer shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable shall be payable by the Power Producer. However, if any new change in tax/duty is effected in the period after the Bid Deadline and any time during the period of Agreement, the same will be passed on by the Power Producer to the Procurer.

### **3.11. APPLICABLE LAW:**

3.11.1. The Agreement shall be interpreted in accordance with the laws of India.

### **3.12. SETTLEMENT OF DISPUTE:**

3.12.1 If any dispute of any kind whatsoever arises between BREDA and Successful bidder in connection with or arising out of the contract including without prejudice to the generality of the foregoing, any question regarding the existence, validity or termination, the parties shall seek to resolve any such dispute or difference by mutual consent.

3.12.2 If the parties fail to resolve, such a dispute or difference by mutual consent, then the dispute shall be referred by either party by giving notice to the other party in writing of its intention to refer to arbitration as hereafter provided regarding matter under dispute. No arbitration proceedings will commence unless such notice is given. Any dispute in respect of which a notice of intention to commence arbitration has been given, shall be finally settled by arbitration.

3.12.3 If the parties have not agreed to Sole Arbitration of the Conditions of the Contract, Governing contracts the dispute/claims arising out of the contract entered into with him will be subject to the jurisdiction of the High Court of Patna.

3.12.4 Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Agreement unless they otherwise agree.

3.12.5 Cost of arbitration shall be borne as per the award of the arbitration.

### **3.13 FORCE MAJEURE**

3.13.1 Notwithstanding the provisions of clauses contained in this RFP document; the contractor shall not be liable to forfeit (a) Security deposit for delay and (b) termination of contract; if he is unable to fulfill his obligation under this contract due to force majeure conditions.

3.13.2 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 BREDA and its decision shall be final and binding on the contractor and all other concerned.

3.13.3 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, BREDA has the right to terminate the contract in which case, the security deposit shall be refunded to him.

3.13.4 If a force majeure situation arises, the contractor shall notify BREDA in writing promptly, not later than 14 days from the date such situation arises. The contractor shall notify BREDA not later than 3 days of cessation of force majeure conditions. After examining the cases, BREDA shall decide and grant suitable additional time for the completion of the work, if required.

**3.14. LANGUAGE:**

3.14.1 All documents, drawings, instructions, design data, calculations, operation, maintenance and safety manuals, reports, labels and any other data shall be in English/Hindi Language. The Agreement and all correspondence between the Nodal Agency and the Bidder shall be in English/Hindi language.

**3.15. OTHER CONDITIONS:**

3.15.1. Power Producer has to obtain all the necessary approvals/Consents/Clearances required for design, engineering, supply, installation, testing and commissioning including Comprehensive O&M of the Project including connectivity to the licensee's network. Nodal Agency and the Procurer will extend possible cooperation to Power Producer in this regard. However, the Power Producer shall be solely responsible for obtaining such approvals/consents/clearances.

3.15.2 The Successful bidder shall not transfer, assign or sublet the work under this contract or any substantial part thereof to any other party without the prior consent of BREDA in writing.

3.15.3 The Successful bidder shall not display the photographs of the work and not take advantage through publicity of the work without written permission of BREDA and owner of the Rooftop.

3.15.4 The Successful bidder shall not make any other use of any of the documents or information of this contract, except for the purposes of performing the contract.

**3.16. AMENDMENT:**

3.16.1. Nodal Agency reserves the right to modify, amend or supplement RFP documents including all formats and annexures at any time. Interested and eligible Bidder are advised to follow and keep track of the website [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) for updated information. No separate notifications will be issued for such notices/ amendments/ clarification etc. in the print media or individually. Nodal Agency shall not be responsible and accountable for any consequences to any party.

**3.17. SUCCESSORS AND ASSIGNS:**

3.17.1. In case the Power Producer may undergo any merger or amalgamation or a scheme of arrangement or similar re-organization and this PPA is assigned to any entity partly or wholly, the PPA shall be binding mutatis mutandis upon the successor, entities and shall continue to remain valid with respect to obligation of the successor, entities.

**3.18. SEVERABILITY:**

3.18.1. It is stated that each paragraph, clause, sub-clause, schedule or annexure of this contract shall be deemed severable, and, in the event of the unenforceability of any paragraph, clause sub-clause, schedule or the remaining part of the paragraph, clause, sub-clause, schedule annexure & rest of the contract shall continue to be in full force and effect.

**3.19. TAX EXEMPTIONS:**

Price bids are invited inclusive of Taxes and duties. However, Tax exemptions including certificates of any sort, if available may be dealt with the concerned Dep't of Govt. of India by the bidder. BREDA in no case will be responsible for providing any tax exemptions to the bidder.

**3.20. CORRUPT OR FRAUDULENT PRACTICE**

3.20.1. The Power Producers, suppliers and contractors and their sub-contractors under the contracts are required to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this, the Nodal Agency:

I. Defines, for the purpose of this provision, the terms set forth below as follows:

(i) **“corrupt practice”** is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

- (ii) **“fraudulent practice”** is any act or omission, including a misrepresentation, that knowingly or recklessly misleads or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
  - (iii) **“collusive practice”** is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
  - (iv) **“coercive practice”** is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
  - (v) **“obstructive practice” is**
    - aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Nodal Agency’s investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation;
    - or**
    - ab) acts intended to materially impede the exercise of the Nodal Agency’s inspection and audit rights.
- II. will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;
  - III. will sanction a firm or individual, including declaring ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for, or in executing, a contract; and
  - IV. will have the right to require that the provision be included in Bidding Documents and in contracts, requiring Bidders, suppliers, and contractors and their sub-contractors to permit the Nodal Agency to inspect their accounts and records and other documents relating to bid submission and contract performance and to have them audited by auditors appointed by the Nodal Agency.

### 3.21 DEBARRED/BLACKLISTED

BREDA reserves the right to carry out the performance review of each Bidder from the time of submission of Bid onwards. Following will result in automatic debarment/ blacklisting as the case may be:

- a) Non-performance with regard to quality and supply schedule based on objective criteria.
- b) attempt to bribe an BREDA official
- c) Found engaging in corrupt or fraudulent practices.
- d) Failure of materials/ equipment’s supplied in more than one contract
- e) Established misbehavior and threatening officials of BREDA
- f) Blacklisting by other state, central utilities or other government entities.

Blacklisting shall be for a period ranging from three to six years. Corrupt and fraudulent practices shall attract harshest punishment.

## SECTION III: BID EVALUATION

### **4. BID EVALUATION:**

#### **4.1. THE EVALUATION PROCESS COMPRISES THE FOLLOWING FOUR STEPS:**

- a) Step I-Responsiveness check of Technical Bid
- b) Step II-Evaluation of Bidder's fulfillment of Eligibility Criteria described in Section -I
- c) Step III-Evaluation of Financial Bid
- d) Step IV-Selection of Successful Bidder

#### **4.2. RESPONSIVENESS CHECK OF TECHNICAL BID:**

4.2.1. The Technical Bid submitted by Bidder shall be scrutinized to establish responsiveness to the requirements laid down in the RFP. Any of the following may cause the Bid to be considered "Non-responsive" and liable to be rejected, at the sole discretion of Nodal Agency, subject to sufficient justification:

- 4.2.1.1. Bid not submitted in prescribed envelop format.
- 4.2.1.2. Bid that are incomplete, i.e. not accompanied by any of the applicable formats;
- 4.2.1.3. Bid not accompanied by contents of Envelope – I as mentioned in Clause 3.13.1.
- 4.2.1.4. Bid not signed by authorized signatory and /or stamped in the manner indicated in this RFP;
- 4.2.1.5. Material inconsistencies in the information /documents submitted by the Bidder affecting the Eligibility Criteria;
- 4.2.1.6. Information not submitted in the formats specified in this RFP;
- 4.2.1.7. Bid being conditional in nature;
- 4.2.1.8. Bid not received by the Bid Deadline;
- 4.2.1.9. Bid having conflict of interest;
- 4.2.1.10. Bidder makes any misrepresentation;
- 4.2.1.11. Any other act of Bidder which may be unlawful for the purpose of this RFP.
- 4.2.1.12. Bid submitted is not in requisite format(s).
- 4.2.1.13. Each Bid shall be checked for compliance with the submission requirements set forth in this RFP before the evaluation of Bidder's fulfillment of Eligibility Criteria is taken up.

#### **4.3. EVALUATION OF FINANCIAL BID:**

4.3.1. Financial Bid of the Eligible Bidder shall be opened online in presence of the representatives of such Eligible Bidder, who wish to be present, on date as may be intimated by Nodal Agency to the Bidder through [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) or E-mail. The evaluation of Financial Bid shall be carried out based on the information furnished. The Financial Bid submitted by the Bidder shall be scrutinized to ensure conformity with the RFP. Any Bid not meeting any of the requirements of this RFP may cause the Bid to be considered "Non-responsive".

### **5. SUCCESSFUL BIDDER(S) SELECTION:**

- 5.1. Bid qualifying in as per Eligibility Criteria shall only be evaluated in this stage.
- 5.2. All bidder qualifying Eligibility Criteria shall be placed as equal. Technical qualification is must for a Bidder to become eligible for assessment on financial criteria.
- 5.3. Eligible Bidder shall quote the Levelized Tariff ("Quoted Tariff") in the Financial Bid, considering the provisions of escalation and format specified in Section VIII. The Quoted Tariff shall be calculated up to two (2) decimal places.
- 5.4. In case where two or more Eligible Bidders bid the same lowest Quoted Tariff for the same Project category, Eligible Bidder with highest Net worth shall be declared as Qualified Bidder.
- 5.5. Work to Qualified Bidders will be awarded on per unit rate of L1 in each group.
- 5.6. For each Project category, Eligible Bidder shall be ranked from the lowest to the highest based on the Financial Bid submitted by the Bidder and shall be offered to match price to L1.

- 5.7. Eligible Bidder with lowest Quoted Tariff for given scope of work under each category shall become the Qualified Bidder. LoA shall be issued to such Qualified Bidders who matches the L1 price and they shall be declared as Successful Bidders.
- 5.8. Initially Capacity allocation to L1 will be maximum of their bided quantity or 50% of capacity in that slab. Rest of the capacity will be distributed proportionately among all qualified bidders (including L1) who agree to match L1 for that slab (The firm who has bided for that slab subject to maximum of their bid quantity). Maximum of 03 qualified bidders will be selected in each slab.
- 5.9. If desired capacity is not allocated in three bidders then offer shall be given subsequent two bidders who matches the L1 quoted price.
- 5.10. The date of issuance of LoA shall be intimated by the Nodal Agency to the Successful Bidder.
- 5.11. If Successful Bidder fails to acknowledge the same, the Nodal Agency reserves the right to annul /cancel the LoA to Successful Bidder.
- 5.12. Nodal Agency at its own discretion has the right to reject any or all the Bid without assigning any reason whatsoever.
- 5.13. BREDA reserves the right to increase / Decrease of the Bidder Allocated Capacity at its sole discretion and at the request of the Bidder at L1 price.
- 5.14. In case capacity is modified by BREDA Successful bidder shall submit the equivalent amount of CPG / Amended CPG to BREDA within 14 days from the date of issue of intimation of work order.

## SECTION IV: SCOPE OF WORK

### **6. DETAILS OF WORKS:**

- 6.0.1 Total 15 MW capacity is divided in three groups, however this capacity may vary.
- i. Govt. Buildings of Patna Capital
  - ii. Health Department.
  - iii. Other Govt. Buildings in Bihar
- 6.0.2 Designing, engineering, supply, installation, testing and Commissioning of various capacities of Project as per standard design and specifications and connecting up to existing Mains/ACDB and interfacing internal electrical loads of Project with licensee's network/electrical loads with Comprehensive O &M for period of twenty five (25) Operational Years for Sale of Solar Power. Power Producer would have to take approval for the interfacing the Project with Grid/Electrical Loads of every location from distribution licensee/ CEIG, a applicable. Comprehensive O &M for twenty five (25) Operational Year shall be required for each of the Project.
- 6.0.3 Bidder shall be responsible for all the works related to Commissioning and operation for twenty five (25) Operational Years of Project. In no case, Procurer or Nodal Agency shall be responsible to pay or increase in tariff for any work related to Project.
- 6.0.4 It is clarified that the projects awarded under this RFP would not include energy storage with rooftop solar project. However, if Procurer desires to have such arrangement, it would need to pay separately for the battery storage, and associated change in design and civil and electrical works. Such arrangement would not affect the tariff discovered for sale of power under this RFP.

### **6.1. THE SCOPE OF WORK SHALL ALSO INCLUDE THE FOLLOWING:**

- 6.1.1 A layout plan of the site should be submitted to the Inspecting Authority clearly indicating the identified location for installation of SPV modules & control room, where control panels shall be installed. The Power Producer shall also submit the mode in which the system will operate in accordance with the provisions of Clauses 5.1, 5.2, 5.3 and 5.4 of Bihar Policy for Decentralized Renewable Energy Systems, 2016 as amended from time to time;
- 6.1.2 Detailed planning of time bound smooth execution of Project;
- 6.1.3 Performance testing of the Completion and Successful Commissioning of the Project;
- 6.1.4 Comprehensive O &M of the Project for twenty five (25) Operational Year to assure faultless operation, and inventory maintenance; Supply of Power from Commissioning to Termination or for twenty five (25) Operational Years;
- 6.1.5 Coverage of risk liability of all personnel associated with implementation and realization of the Project;
- 6.1.6 The Power Producer shall maintain sufficient inventory of the spare parts to ensure that the Project is functional during the term of PPA;
- 6.1.7 The Power Producer is responsible for the waterproofing of the roof disturbed/ pierced for installation of Project for the Comprehensive O &M period of first 3 Operational Years. The Power Producer should immediately take necessary action to repair any damage to the water proofing. However, in such situations, Power Producer shall bear any loss or damage to Project and rectify the same within reasonable timeframe but any generation loss in such eventualities shall not be passed on to Procurer. If Power Producer fails to do required water proofing within 7 days from the day of identification of issue, Procurer may get the same done at prevailing market rate and Power Producer shall reimburse the same to Procurer. If the Power Producer fails to reimburse the expenses to the Procurer then such expenses shall be adjusted by the Procurer from the energy bills of the next six (6) months.
- 6.1.8 Power Producer shall be responsible for O &M of the Project from the first Part Commissioning or SCOD, whichever is earlier, to the completion of twenty five (25) Operational Years.

## **6.2. INTERNAL ELECTRIFICATION:**

- 6.2.1 Inspection of the existing electrical network of each of the Project site;
- 6.2.2 Inspection of the Project in respect of its interfacing with licensee network/identified electrical load;
- 6.2.3 Preparation and submission of electrical drawing for the site with quantity of material required;
- 6.2.4 Obtaining prior approval of the work and drawing from Inspecting Authority;
- 6.2.5 Execution of the work in accordance with the norms and regulation directives for testing and completion of the Project to the satisfaction of the Nodal Agency;

## **6.3. GRID CONNECTION:**

- 6.3.1 The Power Producer shall be responsible for synchronization of the Project with licensee's network under Bihar Policy for De-centralized Renewable Energy Systems, 2016 as amended from time to time.
- 6.3.2 Connectivity of Project with the licensee's network;
- 6.3.3 Commissioning of the project as applicable.

## **6.4. METERING AND GRID CONNECTIVITY:**

- 6.4.1 Metering and grid connectivity of the Projects would be the responsibility of the Power Producer in accordance with the prevailing guidelines of the concerned distribution licensee and / or CEA and net metering provisions in Bihar. Nodal Agency and Procurer may facilitate in the process; however the entire responsibility lies only with the Power Producer. The cost of required meters shall be borne by Successful Bidder.

## **6.5. INSURANCE:**

- 6.5.1 The Power Producer shall also take insurance for third party liability covering loss of human life, engineers and workmen and also covering the risks of damage, theft of material/ equipment/ properties after completion of the work(s). Before commencement of the work, the Power Producer shall ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work. Liquidation, Death, Bankruptcy etc., shall be the responsibility of Power Producer.

## **6.6. WARRANTY AND GUARANTEES:**

- 6.6.1 The Bidder shall warrant that the goods supplied under this Agreement are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials as per standards specified in the technical specifications of this RFP. The Power Producer shall provide warranty covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of twenty five (25) Operational Years.
- 6.6.2 The responsibility of operation of warranty and guarantee clauses and claims/ settlement of issues arising out of said clauses shall be responsibility of the Power Producer and Nodal Agency will not be responsible in any way for any claims whatsoever on account of the above.

## **6.7. TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP:**

- 6.7.1 The design, engineering, manufacture, supply, installation, testing, commissioning and performance of the equipment shall be in accordance with latest/ appropriate IEC/Indian Standards as detailed in the technical specifications of this RFP or its subsequent amendments. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE/ CEA/ electricity regulators/ Nodal Agency shall be used. All the relevant test certifications must be kept valid up to one (1) Year from the COD of the Project.
- 6.7.2 The specifications of the components should meet the technical specifications mentioned in this RFP or



its subsequent amendments.

- 6.7.3 Any supplies which have not been specifically mentioned in this RFP but which are necessary during construction or Comprehensive O&M period of the Project shall be provided by the Power Producer without any extra cost and within the time schedule for efficient and smooth construction and Comprehensive O &M of the Project.

#### 6.8. ADDITIONAL WORKS

- 6.8.1 Additional civil, structural or electrical works which are so required/desired to be undertaken by the Procurer for the Project and which are not covered in the scope of work, shall be done by the Power Producer after obtaining concurrence of the Procurer on its design, drawing and estimate cost of such additional works shall be computed on the basis of SOR of PWD (Civil) and of DISCOM (Electrical). Cost of additional works shall be decided mutually between Power Producer and Procurer but in any case, it should not be more than cost computed based on SOR rates. Additional works may include but not limited to;
- 6.8.2 Requirement of additional/specific design of structure, as desired by Procurer in deviation with the design provided by the Power Producer, to accommodate solar panels on rooftop, ground or on any existing structure/ construction/body.
- 6.8.3 Construction of approach to the rooftop/place of installation.
- 6.8.4 Unless otherwise agreed between the Parties, the Power Producer shall not do (a) chipping of rooftop; or (b) disturb water proofing of roof (c) carry out any other modification of the Premises without the written consent of the Procurer. One time cost for strengthening of Premise to the extent required for setting up Solar PV Project during construction shall be borne by Power Producer. Any delay due to strengthening of Premise shall not be considered to extend the SCOD unless it is approved by Procurer in written. Cost of repair or maintenance of Premise to the extent required for the Solar PV Project, during the Comprehensive O &M of Project, shall be the responsibility of Power Producer, other than cost required for water proofing. The cost for water proofing will be the responsibility of Power Producer for a period of first three (3) Operational Years.
- 6.8.5 In case of any ambiguity over any specific works, Power Producer and Procurer shall involve Nodal Agency to get the clarity on the additional works.

#### 6.9. PROVISION OF SIGN BOARD

- 6.9.1 Power Producer will have to provide sign board of dimension 8'x4' (M.S. sheet size 4'x3' of 16 gauge, M.S. angle 40x40x5 mm with essential bracing & adequate grouting with PCC 1:3:6 i/c painting & writing) at each site with complete specification & matter will be provided to the Power Producer with PPA.

#### 6.10. COMPLETION AND COMMISSIONING

- 6.10.1 **Completion:** When the Power Producer fulfils his obligation under the PPA, it shall obtain completion certificate from Nodal Agency for the PPA Capacity and part thereof. Nodal Agency shall issue separate Completion Certificate for the capacity of project.
- 6.10.2 Procurer may purchase power produced after the Initial Part Commissioning or Completion and before commissioning from the Procurer at Quoted Tariff, on the condition that Power Producer shall follow all laws and regulation while providing solar power.
- 6.10.3 For the purpose of obtaining Completion certificate following documents shall be required:
- Inspection Report of the Work(s) as per prescribed format provided by Nodal Agency.
  - CEIG Approval for the PPA Capacity or part thereof, if applicable;
  - Project satisfaction certificate from DREO for the PPA Capacity or part thereof. If PPA Capacity divided under Category I and III, Power Producer shall submit separate satisfaction certificate from Procurer for PPA Capacity or part thereof under Category I and III.
  - Document in support of performance of the Project and achievement of CUF of 15% subject to seasonality as per provisions of Clause 3.3.1, as certified by the Nodal Agency. Separate performance report for the capacity under Category A,B & C shall be submitted by Power Producer.

In case of part Completion, Power Producer shall be required to submit all the above mentioned requisites with request for every part capacity Completion.

**6.10.4 Commissioning:**

- 6.10.4.1 Part Commissioning is allowed for the Projects subject to the installation of Net meter and submission of requisite documents.
- 6.10.4.2 Power Producer, in coordination with the Discom, shall submit commissioning certificate, for the capacity of the Project received Completion certificate under Category I, issued by the concerned Discom, in accordance with all applicable regulations/policies.
- 6.10.4.3 Further, Nodal Agency shall issue the Commissioning Certificate for the capacity of the Project Completed under Category III on issuance of Completion Certificate for capacity under Category III.
- 6.10.4.4 In case of Part Commissioning, Power Producer shall be required to submit all the above mentioned requisites with submission of every Part Commissioning of capacity.

## SECTION V: TERMS AND CONDITION FOR SUBSIDY PAYMENT

### **7. PAYMENT TERMS:**

25% subsidy for all Govt. Building for Grid Connected Rooftop Solar Power Plant. The Subsidy amount shall be calculated as per prevailing MNRE Benchmark price. The subsidy for each eligible Project under each Project Group after deduction of 3% eligible subsidy, as administrative charges of nodal agency, shall be released in two parts:

- 7.1. Advance subsidy payment of fifty (50%) percent of the subsidy value for PPA Capacity of each Project under each Project Group within fifteen (15) Days from the signing of PPA, if Power Producer is willing to deposit Bank Guarantee in accordance with clause 3.1.
- 7.2. Successful Bidder shall be required to submit BG (if Successful Bidder willing to take advance subsidy) fifteen (15) Days prior to advance subsidy requirement. Advance subsidy can be requested from Nodal Agency at any time before SCOD.
- 7.3. Subsidy payment of remaining subsidy value, within forty (45) Days from the COD of Project, with adjustment of Advance subsidy, if any. To get the disbursement of subsidy payment, Power Producer shall require to present:
  - 7.3.1. Self - Certified copy of application submitted to power Distribution Company for connectivity of Project with grid;
  - 7.3.2. Inspection Report along with duly signed completion certificate by Power Producer and Inspecting Authority based on the achievement of minimum CUF in accordance with clause 3.21.
  - 7.3.3. Colored photograph of SPV Array, PCU and sign board duly certified by Inspecting Authority;
  - 7.3.4. A certificate from any licensee or contractor / supervisor certifying that the electrical internal/external electrical work carried out is in accordance with the norms of electrical safety standards;
- 7.4. In case any C-PBG, BG (if available) or Bid Security is utilized, partly or fully, towards recovery/ adjustment of LD/ penalty, the same shall be replenished to its original value and validity period within seven (7) Days of written communication on this behalf from Nodal Agency to Power Producer, failing which the Power Producer shall become ineligible for further work orders being given under this RFP.
- 7.5. Nodal Agency shall recover/ adjust LD/penalty from any subsidy payment due to the Power Producer. If recovery/ adjustment is not possible from payments due, the same shall be done through C-PBG/BG against the work order/PPA concerned. Lastly, if recovery/ adjustment of LD/ penalty is not possible against payment due or

C-PBG/BG concerned, it shall be done against any C-PBG/BG of the Power Producer with Nodal Agency with respect to any other work.

## SECTION VI: CHECKLIST

### 1. Checklist Envelop -I

<b>S.No.</b>	<b>Particular</b>	<b>Format No.</b>	<b>Copy Attached Yes / No</b>
1	Covering Letter	1	Yes / No
2	Bid processing Fee (Non-Refundable)	-	Yes / No
3	Bid Security (In Bank Guarantee/FDR/DD)	4 (in case of Bank Guarantee)	Yes / No

### 2. Checklist Envelop-II

<b>S. No.</b>	<b>Particular</b>	<b>Format No.</b>	<b>Copy Attached</b>
1.	Power of Attorney in favor of authorized signatory, on requisite value of stamp paper (Rs. 1000/-).	7	Yes / No
2.	Board Resolution in support of power of attorney in favor of authorized signatory (applicable for companies)	-	Yes / No
3.	General Particulars	2	Yes / No
4.	Bidder's composition and ownership structure (applicable for companies)	3	Yes / No
5.	Declaration for Eligibility Criteria Requirement (Financial)	8	Yes / No
6.	Format For Certificate Of Relationship in case of Affiliate (if applicable)	9	Yes / No
7.	Certificate of Incorporation	-	Yes / No
8.	Undertaking	10	Yes / No
9.	Joint Venture Agreement (If applicable)	12	Yes / No
10.	Declaration	13	Yes / No
11.	Bank Guarantee	14	Yes / No
12.	MNRE Channel Partner Certificate (if applicable)	-	Yes / No
13.	Board Resolution/power of attorney in favor of Lead Bidder (if applicable)	7	Yes / No
14.	RFP Document Sealed and Signed along with the corrigenda and addenda (If any)	-	Yes / No

## SECTION VII: TECHNICAL SPECIFICATIONS

The proposed projects shall be commissioned as per the latest technical specifications and as per latest MNRE notification dated 12.10.2018. Any shortcomings shall lead to cancelation of project in full or part as decided by BREDA.

### 8.1 DEFINITION

A Grid Connected 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, bi-directional mater 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 and should be MNRE approved.

Solar PV system shall consist of following equipment's /components.

- Solar PV modules consisting of required number of **Crystalline** PV cells.
- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Mounting structures
- Junction Boxes.
- Earthing and lightening protections.
- IR/UV protected PVC Cables, pipes and accessories

### 8.2 SOLAR PHOTOVOLTAIC MODULES:

8.2.1 The PV modules used should be made in India.

8.2.2 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-1 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

1 The Solar module used shall be of minimum **250Wp** and above wattage.

2 Adequate protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.

3 PV modules must be tested and approved by any one of the MNRE/NABL/IEC authorized test centers.

4 The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium.

5 The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in the RFP.

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

i. The rated output power of any supplied module shall have tolerance within +/-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 minimum IP-65 rated.

iv. I-V curves at Standard Test Condition (STC) should be provided by Bidder.

8.2.3 The Manufacturer should provide the following minimum information must be mentioned in each modules (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).

a) Made in India (to be subscribed in words)

b) Company Name / Logo

c) Model Number (It should indicate the voltage and related wattage of the module)

d) Serial Number

e) Year of Make

f) BREDA logo

### **8.3 Warranties:**

#### **8.3.1 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 to the original customer ("Customer")
- 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

#### **8.3.2 Performance Warranty:**

PV modules in solar power plant/systems must be warrants for their output peak watt capacity; it should not be less than 90% at the end of 10 years and 80% at the end of 25 years. If the supply of solar module not meet the criteria of power output than bidder should replace it.

### **8.4 ARRAY STRUCTURE**

- 8.4.1 Hot dip galvanized MS mounting structures or Aluminium may be used for mounting the modules/ panels/arrays. Minimum thickness of galvanization should be at least 80 microns for steel.
- 8.4.2 Each structure should have angle of inclination as per the site conditions to generate maximum power. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.
- 8.4.3 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. 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 BREDA. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed (withstand upto 150 Km/Hr).
- 8.4.4 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.
- 8.4.5 Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts (anti-theft only).
- 8.4.6 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.
- 8.4.7 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
- 8.4.8 Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and arrange suitable structures based on the quality of roof.
- 8.4.9 The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m<sup>2</sup>.
- 8.4.10 The minimum clearance of the structure from the roof level should be 300 mm.

### **8.5 JUNCTION BOXES (JBs) or String combiner box**

- 8.5.1 The junction boxes are to be provided in the PV array for termination of connecting cables. The Junction Boxes (JBs) shall be made of GRP/FRP/Polycarbonate/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement minimum IP65 protected. 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.
- 8.5.2 Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to minimum IP65 standard, 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 as per site requirement.
- 8.5.3 Each Junction Box shall be made up of High quality material with 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.

- 8.5.4 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
- 8.5.5 All fuses shall have DIN rail mountable fuse holders and shall be housed in thermo plastic IP65 enclosures with transparent covers.

**8.6 DC DISTRIBUTION PANELBOARD:**

- 8.6.1 DC Distribution panel board (DPB) to receive the DC output from the array field.
- 8.6.2 DCDB shall have enclosure of dust & vermin proof conform to minimum 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.
- 8.6.3 DCDB may be inside the inverter/PCU but with all necessary safety protection.

**8.7 AC DISTRIBUTION PANEL BOARD:**

- 8.7.1 AC Distribution Panel Board (DPB) IP65 protected shall control the AC power from PCU/ inverter, and should have necessary surge arrestors.
- 8.7.2 The output of ACDB shall be connected to LT panel of the premises with provision of disconnect switch/isolator.
- 8.7.3 All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- 8.7.4 The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- 8.7.5 All the Panel’s shall be metal clad, totally enclosed, rigid, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz
- 8.7.6 The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
- 8.7.7 Should conform to Indian Electricity Act and rules (according to latest amendment).
- 8.7.8 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

**8.8 PCU/ARRAY SIZE RATIO:**

- 8.8.1 In case of projects, wherein the installed inverter capacity is less than the PV module array capacity, the inverter capacity shall be considered for declaring commissioned plant capacity and subsequently for release of subsidy. Similarly, for projects, wherein the installed inverter capacity is more than the PV module array capacity, the PV module array capacity shall be considered for declaring commissioned plant capacity and subsequently for release of subsidy
- 8.8.2 Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.
- 8.8.3 CUF shall be atleast 15% from the successful date of commissioning for the project life.

**8.9 PCU/ INVERTER:**

8.9.1 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 follows:

Switching devices	IGBT/MOSFET
Control	Microprocessor/DSP

Nominal AC output voltage & frequency	415V, 3 Phase, 50 Hz (In case, single phase inverters are offered, suitable arrangement for balancing the phases must be made).
Output Rated frequency	50 Hz
Operating frequency range	48.5 Hz to 51.5 Hz
Ambient temperature considered	-20°C to 50°C
Humidity	95% Non-condensing
Protection of enclosure	IP-20 (Minimum) for indoor IP-65 (Minimum) for outdoor
Tolerance on AC o/p rated voltage	±10%
No-load losses	Less than 1% of rated power
Inverter efficiency (Minimum)	>95% (In case of 5kW or above with all safety standards/protections) >90% (In case of less than 5kW with all safety standards/protections)
THD	<3% (at 100% load)
PF	>0.9

- 8.9.2 Three phase PCU/ inverter shall be used with each power plant system (05 kW and/or above) but In case of less than 05 kW single phase inverter can be used. However as per the metered connection (Single phase or three phase) inverter shall be used accordingly.
- 8.9.3 PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- 8.9.4 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.
- 8.9.5 Built-in meter and data logger to monitor plant performance through external computer shall be provided.
- 8.9.6 **Anti-islanding** (Protection against Islanding of grid): The PCU shall have anti islanding protection in conformity to IEEE 1547/UL 1741/ IEC 62116 or equivalent BIS standard.
- 8.9.7 The PCU/ inverter generated harmonics, flicker, DC injection limits, Voltage Range, Frequency Range and Anti-Islanding measures at the point of connection to the utility services should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.
- 8.9.8 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.
- 8.9.9 The MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS standard. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.
- 8.9.10 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.

## 8.10 INTEGRATION OF PV POWER WITH GRID:

- 8.10.1 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, if required, PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. Isolation of inverter output with respect to the grid/ DG power connection need to be provided by the bidder.



## **8.11 REMOTE MONITORING**

- 8.11.1 The bidder shall provide unique login id and password for each installed solar power plant to BREDA and beneficiary.
- 8.11.2 The following parameters are accessible via the operating interface display in real time through remote monitoring 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

## **8.12 POWER CONSUMPTION:**

Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Decisions/guidelines of appropriate authority like DISCOM, state regulator may be followed.

## **8.13 PROTECTIONS**

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

## **8.14 LIGHTNING PROTECTION**

The SPV power plants shall be provided with lightning & overvoltage 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 latest IEC 62305 standards. 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.

## **8.15 SURGE PROTECTION**

Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and -ve terminals to earth (via Y arrangement)

## **8.16 EARTHING PROTECTION**

- 8.16.1 Each PV array structure should be grounded/ earthed properly as per IS:3043-1987 (reaffirmed 2006). In addition the lightning arrester/masts should also be earthed inside the array field. PCU, ACDB and DCDB should also be earthed properly. All non-current metal parts shall be earthed with two separate and distinct earth continuity conductors to an efficient earth electrode. Separate earthing to be provided for LA, AC and DC parts.
- 8.16.2 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.

## **8.17 GRID ISLANDING**

- 8.17.1 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.

- 8.17.2 A manual disconnect 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

## 8.18 CABLES

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

- a) Shall meet IEC 60227/IS 694, IEC 60502/IS1554, IS 7098 standards
- b) Temp. Range:  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ .
- c) Voltage rating 660/1100V
- d) Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- e) Flexible
- f) 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.
- g) For the DC cabling, XLPE or, XLPO insulated and sheathed, UV- stabilized single core multi-stranded flexible copper cables shall be used; Multi-core cables shall not be used.
- h) For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi-core multi-stranded flexible copper cables shall be used; Outdoor AC cables shall have a UV-stabilized outer sheath.
- i) The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPO type and black in colour.
- j) The DC cables from the SPV module array shall run through a UV- stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.
- k) Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.
- l) All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm; the minimum DC cable size shall be 4.0 mm<sup>2</sup> copper; the minimum AC cable size shall be 4.0 mm<sup>2</sup> copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires.
- m) 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. In addition, cable drum no. / Batch no. to be embossed/ printed at every one meter.
- n) Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black in colour.
- o) All cables and connectors for use for installation of solar field must be of solar grade which can withstand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC standards. DC cables used from solar modules to array junction box shall be solar grade copper (Cu) with XLPO insulation and rated for 1.1kV as per relevant standards only.
- p) Bidder will have to indicate the size and length as per system design requirement. All the cables required for the plant shall be provided by the Bidder. Any change in cabling sizes if desired by the Bidder shall be approved after citing appropriate reasons. All cable schedules/ layout drawings shall be approved prior to installation. Cable length may vary as per the site requirements.
- q) 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.
- r) The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.
- s) The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%.

## 8.19 CONNECTIVITY

8.19.1 The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Following criteria have been suggested for selection of voltage level in the distribution system for ready reference of the solar suppliers.

Plant Capacity	Connecting Voltage
Up to 05 kW	240V-single phase or 415V-three phase at the option of the consumer
Above 05 kW	415V – three phase

- i. Utilities may have voltage levels other than above; DISCOMs may be consulted before finalization of the voltage level and specification is made accordingly.
- ii. Net Metering should be as per DISCOM guideline.

## 8.20 TOOLS & TACKLES AND SPARES:

8.20.1 A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT/MOSFET driver cards etc. Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Comprehensive Maintenance which upon its use shall be replenished

## 8.21 DANGER BOARDS AND SIGNAGES:

Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date.

## 8.22 BOM(Bill of material), DESIGN, DRAWINGS & MANUALS:

8.22.1 Engineering BOM, Design, electrical drawings (certified from MNRE empanelled chartered engineer), 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, with basic design of the power plant and power evacuation, synchronization along with protection equipment.

8.22.2 Approved ISI and reputed makes for equipment be used.

## 8.23 PLANNING AND DESIGNING:

8.23.1 The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labour. The bidder should submit the array layout drawings along with Shadow Analysis Report to BREDA.

8.23.2 BREDA reserves the right (if required) to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.

## 8.24 SOLAR PV SYSTEM ON THE ROOFTOP FOR MEETING THE ANNUAL ENERGY REQUIREMENT

The Solar PV system on the rooftop of the selected buildings will be installed for meeting the annual energy requirements of the PV capacity permissible by DISCOM as per regulation issued by BERC.

## 8.25 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.

## 8.26 DISPLAY BOARD:

The Bidder has to display a board at the project site mentioning the following:

8.26.1 Plant Name, Capacity, Location, Type of Renewable Energy plant (Like solar wind etc.), Date of commissioning, details of tie-up with transmission and distribution companies, Power generation and Export FY wise.

8.26.2 The size and type of board and display shall be appropriate.

### 8.27 BI-DIRECTIONAL METER/ NET METER:

Technical specification of Bi-directional meter should be as per the prevailing regulations/guideline of BERC/DISCOM.

IEC Standards	
Solar Modules/Panels	
IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853- Part 1/ IS 16170: Part 1	Photovoltaic (PV) module performance testing and energy rating Irradiance and temperature performance measurements, and power rating
IEC 62716	Photovoltaic (PV) Modules – Ammonia (NH <sub>3</sub> ) Corrosion Testing (As per the site condition like dairies, toilets)
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction, Part 2: Requirements for Testing
IEC 62804	Photovoltaic (PV) modules - Test methods for the detection of potential-induced degradation. IEC TS 62804-1: Part 1:  Crystalline silicon (mandatory for applications where the system voltage is > 600 VDC and advisory for installations where the system voltage is < 600 VDC)
IEC 62759-1	Photovoltaic (PV) modules – Transportation testing, Part 1: Transportation and shipping of module package units
Solar PV Inverters	
IEC 62109-1, IEC 62109- 2	Safety of power converters for use in photovoltaic power systems Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems  Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
BS EN 50530 (as applicable)	Overall efficiency of grid-connected photovoltaic inverters: This European Standard provides a procedure for the measurement of the accuracy of the maximum power point tracking (MPPT) of inverters, which are used in grid-connected photovoltaic systems. In that case the inverter energizes a low voltage grid of stable AC voltage and constant frequency. Both the static and dynamic MPPT efficiency is considered.
IEC 62116/ UL 1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures
IEC 60255-27	Measuring relays and protection equipment – Part 27: Product safety requirements
IEC 60068-2 (1, 2, 14, 27, 30)	Environmental Testing of PV System – Power Conditioners and Inverters a) IEC 60068-2-1: Environmental testing - Part 2-1: Tests - Test A: Cold b) IEC 60068-2-2: Environmental testing - Part 2-2: Tests - Test B: Dry heat c) IEC 60068-2-14: Environmental testing - Part 2-14: Tests - Test N: Change of temperature d) IEC 60068-2-27: Environmental testing - Part 2- 27: Tests - Test Ea and guidance: Shock e) IEC 60068-2-30: Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)

IEC 61000 – 2,3,5 (as applicable)	Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) testing of PV Inverters
Fuses	
IS/IEC 60947 (Part 1, 2 & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control- gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Surge Arrestors	
IEC 62305-4	Lightning Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
Cables	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part 1 & 2) / IEC69947	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
Earthing /Lightning	
IEC 62561 Series (Chemical earthing)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrode IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Solar PV Roof Mounting Structure	
IS 2062/IS 4759	Material for the structure mounting

**SECTION VIII: FINANCIAL BID FORMAT**

**Financial Bid –**

(To be submitted only with due encryption)

<b>Name of Firm/ Bidder</b>		
<b>SL No.</b>	<b>Name of Project Group</b>	<b>Levelized Tariff for 25 Years including all taxes, duties &amp; charges (Rs/kWh)</b>
<b>1</b>	<b>Govt. Building of Patna Capital</b>	
<b>2</b>	<b>Health Department</b>	
<b>3</b>	<b>Other Govt. Buildings in Bihar</b>	

Note:

1. Levelized Tariff should be calculated with 3% increase and 11% discounting factor for 25 years.
2. All measurement and calculation of tariff after escalation for each Operational Year shall be done up to two (2) decimal places, with the third digit of five (5) or above being rounded up and below five (5) being rounded down.
3. The above Quoted Tariff is inclusive of any applicable taxes. However, if any new change in tax/duty is effected in the period after the Bid Deadline and any time during the period of Agreement, the same will be passed on by the Power Producer to the Procurer.
4. Further, for clarification, PPA shall be signed for individual Projects but Quoted Tariff shall remain the same for all Projects in that group. However, it shall be applicable in accordance with respective dates of part commissioning/ full COD, as the case may be.

SEAL AND SIGN

AUTHORIZED SIGNATORY

**SECTION IX: FORMATS FOR SUBMITTING RFP**

**FORMAT 1**

**COVERING LETTER**

**(The covering letter should be on the Letter Head of the Bidder/ Lead Member of Joint Venture)**

**Ref. No.** \_\_\_\_\_

**Date:** \_\_\_\_\_

**From:**

**To:**

Bihar Renewable Energy Development Agency

Sub: Request for Proposal (RFP) for Selection of Bidders for Implementation of Roof Top Solar PV Projects aggregating to about \_\_\_ (in words) MWp under RESCO Model at various locations in Bihar with RFP Specification No.....

Dear Sir,

We, the undersigned \_\_\_\_\_ [insert name of the Bidder] having read, examined and understood in detail the Request for Proposal (RFP) for Standardization of Rates for work of Design, Engineering, Supply, Installation, Testing and Commissioning Including Comprehensive Operation & Maintenance (for twenty five (25) Operational Years for Sale of Solar Power aggregating to about \_\_\_ (in words) MWp under RESCO Model at various locations in Bihar, India., hereby submit our Bid comprising of Financial Bid and Technical Bid. We confirm that neither we nor any of our Affiliate has submitted Bid other than this Bid directly or indirectly in response to the aforesaid RFP.

We give our unconditional acceptance to the RFP, dated \_\_\_\_\_ and RFP attached thereto, issued by Bihar Renewable Energy Development Agency, as amended. As a token of our acceptance to the RFP, the same have been initialed by us and enclosed to the Bid. We shall ensure that we execute such RFP as per the provisions of the RFP and provisions of such RFP shall be binding on us.

**Bid Security**

We have enclosed Bid Security in form of DD for Project of amount as mentioned in this RFP, details of which are hereunder:

<b>Project Category</b>	<b>Bid Security (INR Lakhs)</b>	<b>Participation* (Yes / No)</b>	<b>Bid Security Details</b>

*\*Note: Bidder shall mention 'Yes' corresponding to Project Groups it wants to bid and clearly mention 'No' for Project Groups where it does not intend to bid*

OR

We have enclosed a Bid Security in form of DD (Bid Security Details) of cumulative amount required of

Rs. \_\_\_\_\_, subject to clause 3.17 as mentioned in this RFP.

We have submitted our Financial Bid strictly as per this RFP, without any deviations, conditions and without mentioning any assumptions or notes for the Financial Bid in the said format(s).

#### **Acceptance**

We hereby unconditionally and irrevocably agree and accept that the decision made by Bihar Renewable Energy Development Agency in respect of any matter regarding or arising out of the RFP 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 fulfil our obligations with regard to execution of projects of capacity offered.

#### **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 RFP, in the event of our selection as Bidder. We further undertake and agree that all such factors as mentioned in RFP have been fully examined and considered while submitting the Bid.

We undertake that we have satisfied ourselves with the site conditions of the projects and our proposed financial bid takes into consideration the existing site conditions.

#### **Contact Person**

Details of the contact person are furnished as under:

<b>Particulars</b>	<b>Description</b>
Name	
Designation	
Company	
Address	
Phone Nos.	
Fax Nos.	
E-mail address	

We are enclosing herewith the Envelope-I (Covering letter, Processing fee), Envelope-II (Bid Security) and Envelope-III (Technical documents) containing duly signed formats, each one duly sealed separately, in one original as desired by you in the RFP for your consideration. It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RFP and subsequent communications from Bihar Renewable Energy Development Agency. The information submitted in our Bid is complete, strictly as per the requirements stipulated in the RFP and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid. We confirm that all the terms and conditions of our Bid are valid for acceptance for a period of one hundred and eighty (180) Days from Bid Deadline. We confirm that we have not taken any deviation so as to be deemed non-responsive.

Dated the \_\_\_\_\_ day of \_\_\_\_\_ 2019 Thanking you,

We remain,  
Yours faithfully,

**Name, Designation and Signature of Authorized Person in whose name Power of Attorney/Board Resolution.**



**FORMAT 2****GENERAL PARTICULARS OF THE BIDDER**

1	Name of the Company	
2	Registered Office Address	
3	E-mail	
4	Web site	
5	Authorized Contact Person(s) with name, designation, Address and Mobile Phone No., E-mail address/ Fax No. to whom all references shall be made	
6	Year of Incorporation	
7	Have the Bidder/Company ever been debarred By any Govt. Dept. / undertaking for undertaking any work.	
8	Reference of any documentation formation attached by the Bidder other than specified in the RFP.	
9	Whether the Bidder wishes to form a Project Company for execution of work	Yes/No
10	Bidder is listed in India	Yes/No
11	TIN No.	
12	CST	
13	GST No.	
14	PAN No.	
15	Service Tax (ST-2)	
16	Certificate of Incorporation of Bidder/ Affiliate (as applicable) enclosed	Yes/No
17	Partnership deed or LLP/ Sole Proprietor registration (as applicable) enclosed	Yes/No

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(Signature of Authorized Signatory)

**With Stamp**

**FORMAT 3**

**SHAREHOLDING CERTIFICATE**

<b>Name of the Equity holder</b>	<b>Type and Number of shares owned</b>	<b>% of equity holding</b>	<b>Extent of Voting Rights</b>

\_\_\_\_\_

(Signature of Authorized Signatory) With Stamp

\_\_\_\_\_

(Signature of Company Secretary/Director/Chartered Accountant)

## FORMAT 4

### **FORMAT FOR CONSTRUCTION PERFORMANCE BANK GUARANTEE**

**(To be on non-judicial stamp paper of Minimum Rs. 1000/-)**

In consideration of the *[Insert name of the Bidder]* (hereinafter referred to as (Bidder) submitting the response to Request for Proposal (RFP) for Selection of Bidders for Implementation of Grid Connected Roof Top Solar PV Projects for Sale of Solar Power aggregating to about \_\_\_\_\_ MWp under RESCO Model at various locations in Bihar in response to the RFP dated

\_\_\_\_\_ issued by Bihar Renewable Energy Development Agency (hereinafter referred to as Nodal Agency) and Nodal Agency considering such response to the RFP of *[insert the name of the Power Producer]* (which expression shall unless repugnant to the context or meaning thereof include its executors, administrators, successors and assignees) and selecting the Project of the Power Producer and issuing LoA No. \_\_\_\_ to *(Insert Name of Power Producer)* as per terms of RFP and the same having been accepted by the selected Project Company, M/s {a Special Purpose Vehicle (SPV) formed for this purpose}, if applicable]. As per the terms of the RFP, the *[insert name & address of bank]* hereby agrees unequivocally, irrevocably and unconditionally to pay to Nodal Agency at *[Insert Name of the Place from the address of the Nodal Agency]* forthwith on demand in writing from Nodal Agency, or any officer authorized by it in this behalf, any amount upto and not exceeding Rupees \_\_\_\_\_ [Rupees \_\_\_\_\_ (Total Value in words)] only, on behalf of M/s *[Insert name of the Power Producer / Project Company]*. This guarantee shall be valid and binding on this Bank up to and including \_\_\_\_\_ and shall not be terminable by notice or any change in the constitution of the Bank or the term of Agreement 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 Rupees \_\_\_\_\_ (both in numbers and words)

Our Guarantee shall remain in force until Nodal Agency shall be entitled to invoke this Guarantee till \_\_\_\_\_. The Guarantor Bank hereby agrees and acknowledges that Nodal Agency shall have a right to invoke this BANK GUARANTEE in part or in full, as it may deem fit.

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

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by *[Insert name of the Power Producer]*. The Guarantor Bank shall not require Nodal Agency to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against Nodal Agency in

respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Patna 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 Nodal Agency shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the selected Power Producer / Project Company, to make any claim against or any demand on the Power Producer or to give any notice to the Power Producer / Project Company or to enforce any security held by Nodal Agency or to exercise, levy or enforce any distress, diligence or other process against the Power Producer / Project Company.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is

restricted to Rupees \_\_\_\_\_ (Rupees \_\_\_\_\_ 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 Nodal Agency serves upon us a written claim or demand.

\_\_\_\_\_

Signature

Name

Power of Attorney

No.

For

[Insert Name of the Bank] Banker's Stamp and Full Address. Dated this \_\_\_\_ day of \_\_\_\_, 20\_\_

Witness:

\_\_\_\_\_

Signature

Name and Address \_\_\_\_\_

\_\_\_\_\_

Signature

Name and Address \_\_\_\_\_

Bihar Renewable Energy Development Agency

**FORMAT 5****CHECK LIST FOR C-PBG**

<b>SL. NO.</b>	<b>Details of checks</b>	<b>YES/NO</b>
1	Is the Bank Guarantee on non-judicial Stamp paper of appropriate value, as per applicable Stamp Act of the place of execution	
2	Whether date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of Stamp paper under the Signature of Stamp vendor? (The date of purchase of stamp paper should be not later than the date of execution of Bank Guarantee and the stamp paper should be purchased either in the name of the executing Bank or the party on whose behalf the Bank Guarantee has been issued. Also the Stamp Paper should not be older than six (6) Months from the date of execution of Bank Guarantee).	
3	Has the executing Officer of Bank Guarantee indicated his name, designation and Power of Attorney No./Signing Power no. on the Bank Guarantee?	
4	Is each page of Bank Guarantee duly signed / initialed by executant and whether stamp of Bank is affixed thereon? Whether the last page is signed with full particulars including two witnesses under seal of Bank as required in the prescribed Performa?	
5	Does the Bank Guarantees compare verbatim with the Performa prescribed in the Bid Documents?	
6	Are the factual details such as Bid Document No. / Specification No., / LOI No. (if applicable) / Amount of Bank Guarantee and Validity of Bank Guarantee correctly mentioned in the Bank Guarantee	
7	Whether overwriting/cutting if any on the Bank Guarantee have been properly authenticated under signature & seal of executant?	

**FORMAT 6**

**POWER OF ATTORNEY**  
**(To be on non-judicial stamp paper of Minimum Rs. 1000/-)**

Power of Attorney to be provided by the Bidder 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 Bidder 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 Selection of Bidders for Implementation of Roof Top Solar PV Projects aggregating to about \_\_\_\_ (in words) kWp under RESCO Model at various locations in Bihar in response to the RFP No..... Dated:

\_\_\_\_\_ issued by Nodal Agency 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 Nodal Agency may require us to submit. The aforesaid Attorney is further authorized for making representations to the Bihar Renewable Energy Development Agency and providing information / responses to Nodal Agency representing us in all matters before Nodal Agency and generally dealing with Nodal Agency in all matters in connection with Bid till the completion of the bidding process as per the terms of the above mentioned in RFP.

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 RFP.

\_\_\_\_\_

Signed by the within named

(Insert the name of the executants 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) Attested

\_\_\_\_\_

(Signature of the executant)

(Name, designation and address of the executant)

\_\_\_\_\_

Signature and stamp of Notary of the place of execution

Common seal of \_\_\_\_\_ has been affixed in my/our presence pursuant to Board of

Director's Resolution dated

WITNESS

\_\_\_\_\_

(Signature) Name \_\_\_\_\_

Designation \_\_\_\_\_

\_\_\_\_\_

(Signature)

Name \_\_\_\_\_

Designation \_\_\_\_\_

**FORMAT 7**

**FINANCIAL ELIGIBILITY CRITERIA REQUIREMENT**

(To be submitted on the letterhead of Bidder/ Lead Member/ Member of Joint Venture)

To,

Bihar Renewable Energy Development Agency

\_\_\_\_\_

\_\_\_\_\_

Patna

Dear Sir,

Sub: Selection of Bidders for Implementation of Grid Connected Roof Top Solar PV Projects for Sale of Solar Power aggregating to about \_\_\_\_ (in words) MWp under RESCO Model at various locations in Bihar in response to the RFP No: ..... Dated: .....

We submit our Bid for which details of our Financial Eligibility Criteria Requirements are as follows. Net worth of Indian Rupees \_\_\_\_\_ Lakh computed as per instructions provided in this RFP based on unconsolidated audited annual accounts (refer Note-1 below). The relevant financial statement for respective years shall be enclosed, duly signed by authorized signatory.

Name of Entity being Evaluated	Financial Year	Finacial Criteria (fill as applicable)	
		Annual Turn Over ( INR Lakh)	Net Worth (INR Lakh)

Note:

The bidders shall declare in undertaking the criteria on which they fulfill the financial eligibility as per the provisions of this RFP.

Yours faithfully

\_\_\_\_\_

(Signature and stamp of Authorized Signatory of Bidder)

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

Date: \_\_\_\_\_

Place: \_\_\_\_\_

\_\_\_\_\_

(Signature and stamp (on each page) of Chartered Accountant/Statutory Auditors of Bidder.

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

Date: \_\_\_\_\_

Place: \_\_\_\_\_

**Notes:**

Audited consolidated annual accounts of the Bidder may also be used for the purpose of financial criteria provided



the Bidder has at least 26% equity in each company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.

**FORMAT 8**

**JOINT VENTURE AGREEMENT**

*(To be on non-judicial stamp paper of INR 1000/- Act relevant to place of execution)*

THIS Joint Venture (JV) Agreement (“Agreement”) executed on this \_\_\_\_\_ day of \_\_\_\_\_ 2018 between M/s [insert name of Lead Member] \_\_\_\_\_ a Company incorporated under the laws of \_\_\_\_\_ and having its Registered Office at \_\_\_\_\_ (hereinafter called the “Lead Member”, which expression shall include its successors, executors and permitted assigns) and M/s \_\_\_\_\_ a Company incorporated under the laws of \_\_\_\_\_ and having its Registered Office at \_\_\_\_\_ (hereinafter called the “other Member”, which expression shall include its successors, executors and permitted assigns), which expression shall include its successors, executors and permitted assigns)

WHEREAS, each Member individually shall be referred to as the “Member” and both the Members shall be collectively referred to as the “Members” in this Agreement.

WHEREAS the Bihar Renewable Energy Development Agency (hereinafter called BREDA has invited response to RFP No. \_\_\_\_\_ dated \_\_\_\_\_ for **Design, Supply, Installation, Testing & Commissioning of Grid Connected Rooftop Solar Photovoltaic (PV) Systems for Sale of Power under RESCO model for estimated 15MW capacity at various locations in Bihar.**

**NOW THEREFORE, THIS AGREEMENT WITNESSTH AS UNDER:**

In consideration of the above premises and agreements all the Members in this JV do hereby mutually agree as follows:

1. We, the Members to the Agreement do hereby unequivocally agree that (M/s \_\_\_\_\_), shall act as the Lead Member for self and on behalf of other Member \_\_\_\_\_.
2. The Lead Member shall be liable and responsible for ensuring the individual and collective commitment of each of the Members of the JV in discharging all of their respective obligations. Each Member further undertakes to be individually liable for the performance of its part of the obligations without in any way limiting the scope of collective liability envisaged in this Agreement.
3. In case the said work is awarded to the Joint Venture the partners of the Joint Venture will nominate a person with duly notarized Power of Attorney on stamp paper, who will represent the Joint Venture with the authority to incur liabilities, receive instructions and payments, sign and execute the contract for and on behalf of the Joint Venture.
4. The parties agree to make financial as well as technical participation and to place at disposal of Joint Venture the benefits of its individual, technical knowledge, skill and shall in all respect bear its share as regards planning and execution of the work and responsibilities including provision of information, advice and other assistance required in the Joint Venture and participation shall be in proportion of  
Company A-----%  
Company B-----%  
Total 100%
5. In case of any breach of any commitment by any of the JV Members, the Lead Member shall be liable for the consequences thereof.
6. This Agreement shall be construed and interpreted in accordance with the Laws of India and court at

Patna alone shall have the exclusive jurisdiction in all matters relating thereto and arising there under.

7. It is hereby further agreed that in case of being shortlisted, the Members do hereby agree that they shall abide by the terms & conditions of the RFP document.
8. It is further expressly agreed that this Agreement shall be irrevocable and shall form an integral part of the RFP submitted to BREDA and shall remain valid till completion of the job assigned to the Contractor.
9. The Lead Member is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Members respectively from time to time in the response to RFP.
10. It is hereby expressly understood between the Members that no Member at any given point of time, may assign or delegate its rights, duties or obligations under this agreement without the explicit permission of BREDA.
11. This Agreement
  - (a) Has been duly executed and delivered on behalf of each Member hereto and constitutes the legal, valid, binding and enforceable obligation of each such Member;
  - (b) Sets forth the entire understanding of the Members hereto with respect to the subject matter hereof; and
  - (c) May not be amended or modified except in writing signed by each of the Members and with prior written consent of BREDA

IN WITNESS WHEREOF, the Members have, through their authorized representatives, executed these present on the Day, Month and Year first mentioned above.

Signature

Signature

For M/s-----[Lead Member]

For M/s-----[Other Member]

(Signature, Name & Designation of the person authorized vide Board Resolution Dated: .....)

Witnesses:

1) Signature-----

2) Signature -----

Name:

Name:

Address:

Address:

**FORMAT 9**

**Undertaking from Bidder/ Lead Member of Joint Venture**

Name: \_\_\_\_\_  
Full Address: \_\_\_\_\_  
Telephone No.: E-mail address: Fax/No.: \_\_\_\_\_

To,  
\_\_\_\_\_

Dear Sir,

We refer to the RFP No: ..... Dated: \_\_\_\_\_ for Request for Proposal (RFP) for Selection of Bidders for Implementation of \_\_\_\_ (in words) MWp Grid Connected Roof Top Solar PV Systems for Sale of Solar Power under RESCO Model at various locations in Bihar.

We have carefully read and examined in detail the RFP regarding submission of an undertaking, as per the prescribed Format at Annexure of the RFP.

We confirm that M/s (Insert name of Bidder) has been authorized by us to use our financial capability for meeting the Financial Eligibility as specified in the RFP referred to above in terms of Net Worth.

We have also noted the amount of the Performance Guarantees and Bid Security required to be submitted as per the RFP by (Insert the name of the Bidder) in the event of it being selected as the Power Producer.

In view of the above, we hereby undertake to you and confirm that in the event of failure of (Insert name of the Bidder) to submit the Performance Guarantees and Bid Security in full or in part at any stage, as specified in the RFP, we shall submit the Performance Guarantee and

Bid Security not submitted by (Insert name of the Bidder)".

We have attached hereto certified true copy of the Board Resolution, whereby the Board of Directors of our Company has approved issue of this Undertaking by the Company.

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the RFP.

\_\_\_\_\_  
Signature of Chief Executive Officer/Managing Director  
Common seal of has been affixed in my/our presence pursuant to  
Board of Director's Resolution dated

WITNESS  
\_\_\_\_\_

(Signature)  
Name \_\_\_\_\_  
Designation \_\_\_\_\_

**DECLARATION**

**(Required to be submitted by the Bidder on Original Letter Head of company)**

**We have carefully read and understood the enclosed Terms and Conditions of the RFP and agree to abide by them.**

We declare that we are (please specify & tick mark the relevant point(s) and cross the others):

1. We declare that we have not been Black listed or otherwise for any Supply of Goods / Services / Works by any Ministry / Department / PSU of Central Government / Any of the State Government(s), anytime / anywhere in the Country Debarred or have failed to execute any previous work of BREDA.
2. We solemnly undertake that the responsibility of execution of the Work as per the terms and conditions of the RFP/ Contract Agreement shall be entirely ours.
3. We declare that we have not taken any support from any of the independent Consultant or Consulting Agency who is associated with Nodal Agency in any form while preparing RFP.

If this Declaration is found to be incorrect or if any RFP Condition is found violated by us, then without prejudice to any other action our Bid Security / Security Deposit may be forfeited in full and the Proposal to the Extent of Acceptance / anytime during Execution of Assignment may be cancelled.

(Signature of Authorized Signatory)  
(Name & Designation in block letters)

## FORMAT 11

### FORMAT FOR BANK GUARANTEE (BG) FOR ADVANCE SUBSIDY (To be on non-judicial stamp paper of Minimum Rs. 1000/-)

In consideration of the *[Insert name of the Bidder]* (hereinafter referred to as (Bidder) submitting the response to Request for Proposal (RFP) for Selection of Bidders for Implementation of Grid Connected Roof Top Solar PV Projects for Sale of Solar Power aggregating to about \_\_\_\_\_ MWp under RESCO Model for Sale of Solar Power at various locations in Bihar in response to the RFP dated

\_\_\_\_\_ issued by Bihar Renewable Energy Development Agency (hereinafter referred to as Nodal Agency) and Nodal Agency considering such response to the RFP of *[insert the name of the Power Producer]* (which expression shall unless repugnant to the context or meaning thereof include its executors, administrators, successors and assignees) and selecting the Project of the Power Producer and issuing LoA No. \_\_\_\_ to *(Insert Name of Power Producer)* as per terms of RFP and the same having been accepted by the selected Project Company, M/s {a Special Purpose Vehicle (SPV) formed for this purpose}, if applicable]. As per the terms of the RFP, the *[insert name & address of bank]* hereby agrees unequivocally, irrevocably and unconditionally to pay to Nodal Agency at *[Insert Name of the Place from the address of the Nodal Agency]* forthwith on demand in writing from Nodal Agency, or any officer authorized by it in this behalf, any amount upto and not exceeding Rupees \_\_\_\_\_

*[Rupees \_\_\_\_\_ (Total Value in words)]* only, on behalf of M/s *[Insert name of the Power Producer / Project Company]*. This guarantee shall be valid and binding on this Bank up to and including \_\_\_\_\_ and shall not be terminable by notice or any change in the constitution of the Bank or the term of Agreement 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 Rupees \_\_\_\_\_ (both in numbers and words)

Our Guarantee shall remain in force until Nodal Agency shall be entitled to invoke this Guarantee till \_\_\_\_\_. The Guarantor Bank hereby agrees and acknowledges that Nodal Agency shall have a right to invoke this BANK GUARANTEE in part or in full, as it may deem fit.

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

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by *[Insert name of the Power Producer]*. The Guarantor Bank shall not require Nodal Agency to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against Nodal Agency in respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Patna 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 Nodal Agency shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the selected Power Producer / Project Company, to make any claim against or any demand on the Power Producer or to give any notice to the Power Producer / Project Company or to enforce any security held by Nodal Agency or to exercise, levy or enforce any distress, diligence or other process against the Power Producer / Project Company. Notwithstanding anything contained hereinabove, our liability under this Guarantee is

restricted to Rupees \_\_\_\_\_ (Rupees \_\_\_\_\_ 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 Nodal Agency serves upon us a written claim or demand.

\_\_\_\_\_

Signature  
Name

Power of Attorney No.  
For

[Insert Name of the Bank] Banker's  
Stamp and Full Address. Dated this  
\_\_\_\_ day of \_\_\_\_\_, 20\_\_

Witness:

\_\_\_\_\_

Signature

Name and Address \_\_\_\_\_

\_\_\_\_\_

Signature

Name and Address \_\_\_\_\_

**FORMAT 12**

**CALCULATION OF LEVELIZED TARIFF**

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

Sl. No.	Year of Operation	Tariff (INR / kWh)	Discount Factor @ 11%	Discounted Tariff (INR / kWh)
1	2	3	4	5 = 3 * 4
1	1st Year (First Year)		1	X1
2	2nd Year (Second Year)		0.901	X2
3	3rd Year (Third Year)		0.812	X3
4	4th Year (Fourth Year)		0.731	X4
5	5th Year (Fifth Year)		0.659	X5
6	6th Year (Sixth Year)		0.593	X6
7	7th Year (Seventh Year)		0.535	X7
8	8th Year (Eighth Year)		0.482	X8
9	9th Year (Ninth Year)		0.434	X9
10	10th Year (Tenth Year)		0.391	X10
11	11th Year (Eleventh Year)		0.352	X11
12	12th Year (Twelfth Year)		0.317	X12
13	13th Year (Thirteenth Year)		0.286	X13
14	14th Year (Forteenth Year)		0.258	X14
15	15th Year (Fifteenth Year)		0.232	X15
16	16th Year (Sixteenth Year)		0.209	X16
17	17th Year (Seventeenth Year)		0.188	X17
18	18th Year (Eighteenth Year)		0.17	X18
19	19th Year (Nineteenth Year)		0.153	X19
20	20th Year (Twentieth Year)		0.138	X20
21	21st Year (Twenty First Year)		0.124	X21
22	22nd Year (Twenty Second Year)		0.112	X22
23	23rd Year (Twenty Third Year)		0.101	X23
24	24th Year (Twenty Fourth Year)		0.091	X24
25	25th Year (Twenty Fifth Year)		0.082	X25
Total			9.351	X = X1+X2+X3.....X25
Levelized Tariff for 25 years(in INR / kWh) = X/9.351				
Levelized Tariff for 25 years in Words				



**FORMAT 13**

**UNDERTAKING TOWARDS NOT BEING BLACK-LISTED  
(On the Letter Head of the Firm)**

I, \_\_\_\_\_ Authorized Signatory of M/s \_\_\_\_\_ hereby give undertaking that we, as a company are not black-listed by any Central/ State Government/ Semi-Government Organization/ Public Sector Undertaking/ Private Institution in India.

Further, if information furnished above stands false at any stage, we shall be completely liable for actions taken by BREDA as per terms & conditions of the tender including disqualification and exclusion from future contracts/assignments.

(Signature of Authorized Signatory)

Name:

Designation:

Seal: