



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

**Request for Proposal (RFP)**

For

**Design, Supply, Installation, Testing & Commissioning with Comprehensive Maintenance (5 Years) of Grid Connected Rooftop Solar Photovoltaic (PV) Systems under CAPEX model for Estimated 40 MW at various locations in the State of Bihar.**

**NCB No: BREDA/TENDER/SPV/GCRTPV/1kWp-500kWp/23/2017-18**

**Bihar Renewable Energy Development Agency (BREDA)**  
(A Govt. Agency under Energy Department)

3<sup>rd</sup> Floor, Sone Bhawan, Birchand Patel Marg,  
Patna- 800001, Bihar

Tele: No.: +91-612-2507734, Fax No: 91-612-2506572

Toll Free: - 18003456204

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

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# Bihar Renewable Energy Development Agency

(A Government Agency under Energy Department)

3<sup>rd</sup> Floor, "Sone Bhawan", Birchand Patel Marg,

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Tel: 0612-2507734 Fax: 0612-2506572, Toll Free No. - 18003456204

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

NCB No: - BREDA/TENDER/SPV/GCRTPV/1kWp-500kWp/23/2017-18

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 Photovoltaic (PV) Systems under CAPEX Model for Estimated 40 MW including Comprehensive Maintenance for 05 years at various locations in the State of Bihar.** The Bidder should meet the following Eligibility Criteria in order to be eligible for participating in this RFP:

S.N	Minimum Eligibility Criteria
1	Bidder should be a Registered Company in India under Companies Act 1956/ 2013 A Manufacturing Company in India of SPV Cells / Modules or Battery. OR A PV system integrator (Conforming to relevant National /International Standard)
2	The minimum capacity to be quoted by the bidder must be at least 1 MW. 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 as per the format C specified in Section-IV of this document.)
3	The bidder should have minimum cumulative 150 kWp per MWp (w.r.t. Bidder Quote) solar grid connected project installation and commissioning experience as per price quoted in the Bid. (Required Document certified from SNA/Gov. Agencies/ Govt. Bodies).  <b>OR</b> The bidder should have minimum cumulative 300 kWp per MWp (w.r.t. Bidder Quote) Off grid solar power plant project installation and commissioning experience as per price quoted in the Bid. (Required Document certified from SNA/Gov. Agencies/Govt. Bodies)
4	Minimum Average Annual Turn Over of the bidder as computed for best 3 financial year out of last 5 financial year should amount to <b>Rs. 1 Cr./ MW</b> (The bidder should submit Audited Financial Statement for last 5 years to this effect).
5	Bidder should have positive (+ve) Net worth at the close of the preceding financial year
6	Bidder should have valid GST registration certificate
7	Bidder 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 sheet 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	<b>From 25/01/2018 (10:00 Hrs.) to 15/02/2018 (18:00 Hrs)</b> (Bihar Renewable Energy Development Agency", 3 <sup>rd</sup> Floor, "Sone Bhawan", Birchand Patel Marg, Patna – 800001.)
2	Cost of Bidding Document <b>(Submission of cost of bidding document is mandatory for all bidders, No exemption for SSI / NSIC registered agency).</b>	<b>Non-refundable</b> INR 15000.00 to be paid through (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). 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.	Pre-bid conference	<b>02/02/2018 at 11.00</b> Hrs. (Bihar Renewable Energy Development Agency", 3 <sup>rd</sup> Floor, "Sone Bhawan", Birchand Patel Marg, Patna – 800001.)

4.	Date / Time for online submission/ uploading of offer/Bid	16/02/2018 up to 16:00 Hrs. ( <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )
5.	Submission of Tender fee , EMD and tender document with relevant test report and certificate in Hard Copy / Original	19/02/2018 at 16:00 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).
6.	Date & time for opening of Technical Bid	20/02/2018 at 15:30 Hrs. ( <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )
7.	Validity of Bid	180 days from the date of opening of Financial Bid.
8.	Bid Security (EMD) <b>(submission of EMD is mandatory for all bidders, exemption for SSI/NSIC registered agency as per GoI rules and regulation)</b>	INR 50,000.00 (INR Fifty Thousand) per Mega Watt (MW) as per Bidder quotes, in form of a Demand Draft (DD) from any Nationalized /Scheduled Commercial Bank.
9	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 should the circumstances warrant such assessment in the overall interest of BREDA.

**3. Consortium of Companies is not allowed in any form.**

4. Detailed RFP can be seen at- [www.breda.bih.nic.in](http://www.breda.bih.nic.in) or [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).

5. For participating in e-tendering process, the contractor shall have to get them registered to get used ID, Password and digital signature. 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 and for any support related to e-tendering process, 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.

6. BREDA will not be responsible, in case of any delay, due to any reason whatsoever, in receipt of Bid Documents by the Bidders.

7. The BREDA reserves the right to reject any or all Bids or cancel/withdraw the RFP without assigning any reason whatsoever and in such case, no Bidder/ intending Bidder shall have any claim arising out of such action.

8. BREDA, Patna intends to undertake a competitive bidding process in order to shortlist and qualify suitable Bidders, 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.

9. 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, expected during the defects liability period in terms of the EPC contract.

10. The detail of the bidding process and summary of the scope of construction works for the project is included in the RFP document.

## **11. Essential Requirement**

- 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 RFP.
- 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.

- 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.
- 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.
- In exceptional circumstances, the competent authority, BREDA may solicit the Bidder's consent to an extension of the period of validity.
- Bids that are rejected during the bid opening process shall not be considered for further evaluation, irrespective of the circumstances.
- 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.
- 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.
- The bidder shall sign on the supporting statements, documents, certificates, uploaded by him, owning responsibility for their correctness /authenticity.
- Corrigendum/ Addendum, if any, will be published on the website itself.
- **RFP are to be submitted in hard copy along with required documents at the following address:**

**Bihar Renewable Energy Development Agency**  
**(A Govt. Agency under Energy Department)**  
**3<sup>rd</sup> Floor, "Sone Bhawan", Birchand Patel Marg,**  
**Patna – 800001. Bihar**  
**Tel:0612-2507734 Fax: 0612-2506572, Toll Free No:- 18003456204**  
**Website: [www.breda.bih.nic.in](http://www.breda.bih.nic.in)**

Organizations are requested to submit realistic and achievable numbers in this regard since lack of achievement at the end of the period may result in the companies being not selected for the future periods of the empanelment. The RFPs 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.

## **1.0. DEFINITIONS & ABBREVIATIONS**

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

- 1.1. “**Affiliate**” shall mean a company that either directly or indirectly
  - a. controls or
  - b. is controlled by or
  - c. is under common control withA Bidding Company and “**control**” means ownership by one company of at least twenty six percent (26%) of the voting rights of the other company.
- 1.2. “**B.I.S**” shall mean specifications of Bureau of Indian Standards (BIS);
- 1.3. “**Bid**” shall mean the Techno Commercial and Price Bid 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.
- 1.4. “**Bidder/Bidding Company**” shall mean Bidding Company submitting the Bid. Any reference to the Bidder includes Bidding Company / including its successors, executors and permitted assigns as the context may require;
- 1.5. “**Bid Deadline**” shall mean the last date and time for submission of Bidding response to this RFP as specified in Bid information Sheet;
- 1.6. “**Bid Capacity**” shall means capacity offered by the bidder in his Bid.
- 1.7. “**CEA**” shall mean Central Electricity Authority.
- 1.8. “**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;
- 1.9. “**Competent Authority**” shall mean Director of BREDA, himself And/or a person or group of persons nominated by him for the mentioned purpose herein;
- 1.10. “**Commissioning**” means Successful operation of the Project / Works by the Contractor, for the purpose of carrying out Performance Test(s) as defined in RFP.
- 1.11. “**Company**” shall mean a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto;
- 1.12. “**Capacity Utilization Factor**” (CUF) shall mean the ratio of actual energy generated by SPV project over the year to the equivalent energy output at its rated capacity over the yearly period.  
 $CUF = \text{actual annual energy generated from the plant in kWh} / (\text{installed plant capacity in kW} * 365 * 24).$
- 1.13. “**Eligibility Criteria**” shall mean the Eligibility Criteria as define above in this RFP;
- 1.14. “**Financially Evaluated Entity**” shall mean the company which has been evaluated for the satisfaction of the Financial Eligibility Criteria
- 1.15. “**IEC**” shall mean specifications of International Electro-technical Commission;
- 1.16. “**kWp**” shall mean kilo-Watt Peak;
- 1.17. “**kWh**” shall mean kilo-Watt-hour;
- 1.18. “**MNRE**” shall mean Ministry of New and Renewable Energy, Government of India;
- 1.19. “**Minimum Bid Capacity**” shall mean the minimum capacity for which the Bidder can submit its Bid. Bidder(s) quoting less the minimum bid capacity shall be out-rightly rejected;
- 1.20. “**Maximum Bid Capacity**” shall mean the maximum capacity for which the Bidder can submit its Bid. ;
- 1.21. “**CMC**” shall mean Comprehensive Maintenance of Rooftop Solar PV system for 5 years;
- 1.22. “**Owner of the project**” shall mean anyone who has ownership (including lease ownership also) of the roof and is the legal owner of all equipment’s of the project.
- 1.23. “**Project Cost / Project Price**” shall mean the price offered by the Bidder for the Scope of work as per RFP document for a State.

- 1.24. **“Project capacity”** means Capacity in kWp offered by the Bidder for each State consisting of single or multiple roof tops. The project capacity specified is on “DC” output Side only.
- 1.25. **“Performance Ratio” (PR) means** :“Performance Ratio” (PR) means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured.  

$$PR = \left( \frac{\text{Measured output in kW}}{\text{Installed Plant capacity in kW}} \right) * \left( \frac{1000 \text{ W/m}^2}{\text{Measured radiation intensity in W/m}^2} \right)$$
- 1.26. **“Project Company”** shall mean Company incorporated by the bidder as per Indian Law.
- 1.27. **“Price Bid”** shall mean the Bidder’s quoted Price as per Format B in the Section- IV of this RFP;
- 1.28. **“Qualified Bidder ”** shall mean the Bidder(s) who, after evaluation of their Techno Commercial Bid stand qualified for opening and evaluation of their Price Bid;
- 1.29. **“RFP”** shall mean Request for Proposal (RFP) / Bid document / Tender document.
- 1.30. **“Statutory Auditor”** shall mean the auditor of a Company appointed under the provisions of the Companies Act, 1956 or under the provisions of any other applicable governing law;
- 1.31. **“Successful Bidder(s) /Contractor/Project Developers(s)”** shall mean the Bidder(s) selected by BREDA pursuant to this RFP for Implementation of Grid Connected Roof Top Solar PV System as per the terms of the RFP Documents, and to whom an Allocation Letter has been issued;
- 1.32. **“SNA”** shall mean State Nodal Agency.
- 1.33. **“Wp”** shall mean Watt Peak.
- 1.34. **1MWp** for the purpose of conversion in **kWp** shall be considered as 1000kWp.



## **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 this 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 this 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

### A. INTRODUCTION, BID DETAILS AND INSTRUCTIONS TO THE BIDDERS

#### 1. INTRODUCTION

1.1 Request for Proposal for Selection of Power Producer for **Design, Supply, Installation, Testing & Commissioning of Grid Connected Rooftop Solar PV Systems under CAPEX model for Estimated 40 MW including Comprehensive Maintenance for a period of 05 years.** The Projects are under Central Finance Assistance Scheme of MNRE, GOI for Residential, Institutional, Social Sector, Private/Commercial Sector and Government Buildings/Institutions in State of Bihar.

1.2 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.

1.3 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.

#### 2.0 BID DETAILS:

2.1 The bidding process under this RPF is for arranging the rate contract for tentative **40 MWp aggregated capacity of Grid Connected Rooftop Solar Power Plants/Projects** under EPC cum comprehensive maintenance for 5 years at various locations in the state of Bihar, India. However, total capacity as indicated above may be increase or decrease. Successful bidders will have to unconditionally agree to the additional quantum beyond the tendered capacity under the same terms and conditions.

2.2 **Maximum allowable Project cost** for this model is at the rate of Rs.70/- per Wp for capacity of 1 – 10 kWp, Rs.65/- per Wp for capacity of 11 – 100 kWp and Rs.60/- per Wp for capacity of 101 – 500 kWp (As per latest MNRE Benchmark Cost) and all the bidders have to follow the latest MNRE Benchmark cost.

Under the scheme of Ministry of New and Renewable Energy (MNRE) vide notification no. 30/11/2012-13/NSM dated: 26.06.2014 and subsequent amendments vide notification no. 03/88/2015-16/GCRT dated: 04/03/2016 and 04/05/2016 and 30/03/2017 provides 30% CFA (Central Financial Assistance) in the following categories:( Ref with latest letter by MNRE)

Sl. No.	Category	Coverage of buildings	Central Financial Assistance/Achievement linked Incentives & awards
i	Residential	All types of residential buildings	CFA upto 30% of benchmark cost or cost arrived through competitive bidding process, whichever is lower

ii	<b>Institutional</b>	School health institutions including medical colleges & hospitals, universities, educational institution etc.[including those registered under the Societies Registration Act 1860 and the Indian Trust Act 1882.	CFA upto 30% of benchmark cost or cost arrived through competitive bidding process, whichever is lower
iii	<b>Social sector</b>	Community centres, Welfare homes, old age homes, orphanages, common service centres, common workshops for artisans of craftsman, facilities for use of community. Trust/NGO/Voluntary organization/training institutions, any other establishments for common public use etc. [including those registered under the societies Registration act 1860 and the Indian Trust Act 1882.]	CFA upto 30% of benchmark cost or cost arrived through competitive bidding process, whichever is lower
iv	<b>Government Buildings/Institutions</b>	Building of both Central & State Govt., local government covering all government offices. Govt. institutions, Public Sector Undertakings, all buildings owned by Govt. directly or by any Govt. owned societies, companies, corporations, organizations, Govt. educational/ health institutions	No CFA Achievement linked Incentives/ awards will be provided
v	<b>Private, commercial and industrial sector</b>	a) Companies registered under the Company Act 1956/2013 other than registered under Section 25/8 b) Company/firm registered with Central/state government authority (SIDC, DIC) c) Company, registered under Limited Liability Partnerships (LLPs)act 2008 d) Partnerships firm registered under Partnerships Act 1932 e) Shops and establishment Act f) Multi state cooperative society Act g) SSI (Small Scale Industries) h) Proprietorship Firms	NO CFA

### 2.3 SIZE OF THE PROJECTS:

The size of each project shall be in the range of 1 kWp to 500 kWp for identified locations of concerned urban local bodies /DISCOMs. One project may however comprise of several rooftop units. Each roof top unit can separately connect with the grid and may have separate meters. The size of each project are divided in three categories as given below:

Category	Capacity of Project (kW)	Benchmark cost (Rs / Wp)
A	1 – 10 kWp	70
B	11-100 kWp	65
C	101 – 500 kWp	60

### 2.4 MINIMUM BID CAPACITY

2.4.1 The minimum cumulative capacity to be quoted by the bidder must be at least 1 MW. 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 along with technical bid as per the formats C specified in Section-IV )

## 3 INSTRUCTIONS TO THE BIDDERS

- i. Bidder must meet the eligibility criteria independently as a Bidding Company. Consortium of Companies is not allowed in any form. Bidder will be declared as a Technically Qualified Bidder based on meeting the eligibility criteria and as demonstrated based on documentary evidence

submitted by the Bidder in the Bid.

- ii. The Successful Bidder shall be required to establish at least one Service Centre in Bihar.
- iii. Bid Document can also be viewed from website [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in)

### 3.1 PARTICULAR OF INFORMATION TO BE SUBMITTED BY THE BIDDER:

S. No.	Particulars of Information/ Document	Format /Annexure Number	Enclosed (Yes/No.)	Page No.
<b>A. Formats to be attached with the Bid</b>				
1	This Check List			
2	Covering Letter	Format 1		
3	Bid Processing Fee & EMD			
4	General Particulars of the bidder	Format 2		
5	Letter of Authorization/ Power of Attorney	Format 6		
<b>B. Documents to be attached with the Bid as Annexures in the same order as mentioned below</b>				
6	Business Profile of Bidder Company (Not more than one page of A4 size)	Annexure 1		
7	Certificate of Incorporation / Registration of Bidder Company	Annexure 2		
8	Attested copies of the valid Registration Certificates of GST and all other applicable tax etc.	Annexure 3		
9	Signed and stamped copy of the Bidding Document including amendments/ clarifications, if any, issued by the BREDA.	Annexure 4		
10	Project Completion Schedule	Format - 3		
11	MOA / AOA of companies	Annexure 5		
12	Shareholding Certificate	Format A		
13	Financial Eligibility Criteria Requirement	Format 7		
14	Current Contract Commitments / Work in Progress.	Format 8		
15	Experience certificates in support of execution of Grid connected rooftop solar PV Power Plant	Annexure 6		
16	Statement of existing commitments and ongoing Govt. /PSU /MNC works along with supporting experience certificates	Annexure 7		
17	Declaration of testing equipment (As per MNRE Norms )	Annexure 8		
18	Annual turnover from Execution of grid connected rooftop solar PV power plants only duly certified by a Chartered Accountant supported by Annual Report / Statement.	Annexure 9		

19	Undertaking from the Bidder of not being black listed by any Government Department, Organization, Agency, Authority or any Public Sector Undertaking owned by the Government as on the date for Bid submission.	Format - 9		
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**Note: All the documents submitted shall be properly indexed with paging and tagging when submitted in hard copy.**

### 3.2 BID SUBMISSION BY THE BIDDER

- 3.2.1 The information and/or documents shall be submitted by the Bidder as per the formats specified in Section-IV of this document.
- 3.2.2 Strict adherence to the formats wherever specified, is required. Wherever, information has been sought in specified formats, the Bidder shall refrain from referring to brochures /pamphlets. Non-adherence to formats and / or submission of incomplete information may be a ground for declaring the Bid as non-responsive. Each format has to be duly signed and stamped by the authorized signatory of the Bidder.

### 3.3 BID SUBMITTED BY A BIDDING COMPANY :

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.

### 3.4 CLARIFICATIONS AND PRE-BID MEETING

- 3.4.1 The BREDA will not enter into any correspondence with the Bidders, except to furnish clarifications on RFP Documents, if necessary. The Bidders may seek clarifications or suggest 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.
- 3.4.2 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.
- 3.4.3 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 Bidders.
- 3.4.4 BREDA is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.

### 3.5 AMENDMENTS TO RFP

- 3.5.1 At any time prior to the deadline for submission of Bids, the BREDA may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP document by issuing clarification(s) and/or amendment(s).
- 3.5.2 The clarification(s) / amendment(s) (if any) may be notified on website <http://eproc.bihar.gov.in>.
- 3.5.3 BREDA will not bear any responsibility or liability arising out of non-receipt of the information regarding Amendments in time or otherwise. Bidders must check the website for any such amendment before submitting their Bid.
- 3.5.4 In case any amendment is notified after submission of the Bid (prior to the opening of Techno-Commercial Bid. Bids received by BREDA shall be returned to the concerned Bidders on their request through registered post or courier and it will be for the Bidders to submit fresh Bids as the date notified by the BREDA for the purpose.
- 3.5.5 All the notices related to this Bid which are required to be publicized shall be uploaded on website <http://eproc.bihar.gov.in>.

### 3.6 BIDDING PROCESS

### 3.6.1 **BID FORMATS**

The Bid in response to this RFP shall be submitted by the Bidders in the manner of fulfil after Minimum Eligibility Criteria. The Bid shall comprise of the following in hard copy:

#### **(A). ENVELOP- I (COVERING LETTER, BID PROCESSING FEE, EMD AND BIDDER FORMAT EXCEL SHEET)**

- i. Covering Letter as per the prescribed Format-1.
- ii. Bid processing fee @ Rs. 15,000/-
- iii. EMD in the form of Demand Draft
- iv. Original power of attorney issued by the Bidding Company in favour of the authorized person signing the Bid, in the form attached hereto as Format-6
- v. General particulars of bidders as per Format-2
- vi. Document in support of meeting Minimum Eligibility Criteria.

**Note: 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.**

#### **(B). ENVELOP- II TECHNO-COMMERCIAL DOCUMENTS**

- i. Covering Letter as per prescribed Format-1.
- ii. Certificates of incorporation of Bidding company
- iii. Details for meeting Financial Eligibility Criteria in the prescribed Format-7 along with documentary evidence for the same.
- iv. Undertakings towards not being Black listed as per Format-9.
- v. Board resolution for Authorized signatory.
- vi. Signed and stamped Copy of RFP Documents including amendments, clarifications & supporting documents by Authorized signatory on each page.

### 3.7 **VALIDITY OF BID**

- 3.7.1 The bid shall remain valid for **a period of 180 days** from the date of techno-commercial bid opening, with bidder having no right to withdraw, revoke or cancel his offer or unilaterally vary the offer submitted or any terms thereof. In case of the bidder revoking or cancelling his offer or varying any term & conditions in regard thereof or not accepting Notification of Award, BREDA shall forfeit the EMD furnished by him. ***Confirmation regarding the Bid offer validity shall be clearly mentioned in the covering letter.***
- 3.7.2 In exceptional circumstances when Notification of Award is not issued, the BREDA may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The EMD provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request will neither be required nor permitted to modify its Bid in any manner.

### 3.8 **METHOD OF BID SUBMISSION**

- 3.8.1 Bids are required to be submitted in a single sealed cover envelope containing Envelope-I (Covering letter, Processing fee and EMD) and Envelope-II (Techno-Commercial documents) Envelope should contain the documents as detailed in Clause 3.6 above.
- 3.8.2 All the Two envelopes shall be kept in an outermost Envelope. All the envelopes should be super scribed as **“Bid for Implementation of Grid connected Roof Top Solar PV System Scheme under CAPEX model at various location in state of Bihar” Envelope-I (Covering envelope) / Envelope-II (Techno-Commercial Bid)”**.
- 3.8.3 The Bidders have the option of sending their offline documents either by registered post; or speed post; or courier; or by hand delivery, so as to reach BREDA Office by the Bid Deadline. Bids submitted by telex/telegram/fax/e-mail shall not be considered under any circumstances. BREDA shall

not be responsible for any delay in receipt of the Bid. Any Bid received after the Bid Deadline shall be returned unopened. BREDA shall not be responsible for premature opening of the Price Bids in case of non-compliance of above.

- 3.8.4 All pages of the offline documents, 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. It is clarified that the same authorized signatory shall sign all pages of the Bid. However, any published document submitted with the Bid shall be signed by the authorized signatory at least on the first and last page of such document Bidders shall submit the Bid in original, duly signed by the their authorized signatory of the Bidder. No change or supplemental information to a Bid will be accepted after the Bid Deadline, unless the same is requested for by BREDA.
- 3.8.5 If the outer cover envelope or Envelope I (Covering Envelope) or Envelope-II (Techno-Commercial Envelope)) is/are not closed/sealed and not super scribed as per the specified requirement, BREDA will assume no responsibility for the Bid's misplacement or premature opening.
- 3.8.6 All the envelopes shall be sealed properly & shall indicate the Name & address of the Bidder. The Bid must be complete in all technical and commercial respect and should contain requisite certificates, drawings, informative literature etc. as required in the Bid document. Each page of the Bid document should be signed & stamped. Bids with any type of change or modification in any of the terms/ conditions of this document shall be rejected. If necessary, additional papers may be attached by the Bidder to furnish/ submit the required information. Any term / condition proposed by the Bidder in his bid which is not in accordance with the terms and conditions of the RFP document or any financial conditions, payment terms, rebates etc. mentioned in Price Bid shall be considered as a conditional Bid and will make the Bid invalid.

### 3.9 COST OF BIDDING

The bidder shall bear all the costs associated with the preparation and submission of his offer, and the company 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 his submission of bid even though BREDA may elect to modify / withdraw the RFP.

### 3.10 EARNEST MONEY DEPOSIT (EMD)

**The Bidder shall furnish the Interest free EMD @ Rs. 50,000 per MW quoted by bidder (Rupees Fifty Thousand per MW only) in the form of Demand Draft drawn in favour of “Bihar Renewable Energy Development Agency”, payable at Patna. The initial validity of EMD shall be for a period of 6 (Six) months from the Bid Deadline, which shall be extended by the bidder as per the bid validity. If the bidder fails to extend the EMD validity as per above on request by BREDA then entire EMD may be forfeited. The EMD of unsuccessful bidders shall be returned promptly after the date of issue of Notification of Award (s) to successful bidders.**

3.10.1 The EMD shall be denominated in Indian Rupees and shall:

- a) be in the form of demand draft, from a Nationalized / Schedule commercial Bank.
- b) be confirmed for payment by the branch of the bank giving the bank guarantee at Bihar.
- c) be submitted in its original form; copies will not be accepted; and remain valid for a minimum period of 6 (Six) months as per clause no 3.12

3.11 The Successful Bidder shall sign and stamp the Notification of Award and return the original copy of the same to BREDA within 14 days from the date of its issue.

3.12 The EMD shall be forfeited without prejudice to the Bidder being liable for any further consequential

loss or damage incurred to BREDA under following circumstances:

- a) Hundred percent (100%) of EMD amount, 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 and in accordance with the Clause 3.13.
- b) Hundred percent (100%) of the EMD amount, if the Successful Bidder fails to unconditionally accept the Notification of Award.
- c) Hundred percent (100%) of the EMD amount, if the Successful Bidder fails to furnish the “Contract Performance Guarantee”

### **3.13 CONTRACT PERFORMANCE GUARANTEE/SECURITY (CPG)**

3.13.1 Within 14 days from the date of intimation of work order, Successful Bidder shall furnish the Contract Performance Guarantee as per mention in bid information sheet.

3.13.2 The Contract Performance Security shall be denominated in Indian Rupees and shall be in the form of a bank guarantee

3.13.2 The CPG shall be forfeited as follows without prejudice to the Bidder being liable for any further consequential loss or damage incurred to BREDA.

- a. If the Successful Bidder is not able to commission the projects under DISCOM guidelines, CPG amount, pro-rata to the capacity not commissioned by the Successful Bidder.
- b. Hundred percent (100%) CPG amount furnished for the Sanctioned Capacity, if the Successful Bidder fails to Commission the Projects(s) under DISCOM guidelines.
- c. In all the above cases corresponding unidentified/non-commissioned capacity shall stand cancelled.

#### **3.13.4 Contract Performance Guarantee (CPG) will be as under**

- i. 10% of the Contract Value – if Bidder’s quoted price lies under 10 % less as compared to MNRE benchmark price.**
- ii. 20% of the Contract Value – if Bidder’s quoted price lies between 10 % to 20% less as compared to MNRE benchmark price.**
- iii. Bid not Acceptable - if Bidder’s quoted price is lesser than MNRE benchmark price by more than 20%.**

3.13.5 The Contract Performance Guarantee shall be valid for a period of 18 months from the date of intimation of work order and CPG payment may be released against submission of 5 (five) BG’s each of 2% amount of work order value for 12, 24, 36, 48 & 60 months respectively against comprehensive maintenance of 5 year.

### **3.14 OPENING OF BIDS & EVALUATION**

3.14.1 Technical Bid Document Envelop of the Bidders shall be opened at BREDA office, in the presence of Technical Committee members and representative of bidders who wish to be present.

3.14.2 The technical bids shall be evaluated & compared by the BREDA which has been determined to be substantially responsive in line with the requirements mentioned in the RFP.

3.14.3 **It should be clearly noted that Part –I (Technical Bid) should not contain any price bid.**

3.14.4 The bidders whose technical bids are declared as technically qualified shall be informed accordingly and their Price Bids shall be opened.

### **3.15 RIGHT TO WITHDRAW THE RFP AND TO REJECT ANY BID**



- 3.15.1 This RFP may be withdrawn or cancelled by the BREDA at any time without assigning any reasons thereof. The **BREDA 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.
- 3.15.2 **The BREDA 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 BREDA shall have no liability towards any Bidder and no Bidder shall have any recourse to the BREDA with respect to the selection process. BREDA shall evaluate the Bids using the evaluation process specified in Section -I, at its sole discretion. BREDA decision in this regard shall be final and binding on the Bidders.
- 3.15.3 **BREDA reserves its right to** vary, modify, revise, amend or change any of the terms and conditions of the Bid before submission. The decision regarding acceptance or rejection of bid by BREDA will be final.
- 3.16 **ZERO DEVIATION**  
This is a ZERO Deviation Bidding Process. Bidder is to ensure compliance of all provisions of the Bid Document and submit their Bid accordingly. Tenders with any deviation to the bid conditions shall be liable for rejection.
- 3.17 **EXAMINATION OF BID DOCUMENT**
- 3.17.1 The Bidder is required to carefully examine the Technical Specification, terms and Conditions of Contract, and other details relating to supplies as given in the Bid Document.
- 3.17.2 The Bidder shall be deemed to have examined the bid document including the agreement / contract, to have obtained information on all matters whatsoever that might affect to execute the project activity and to have satisfied himself as to the adequacy of his bid. The bidder shall be deemed to have known the scope, nature and magnitude of the supplies and the requirements of material and labour involved etc. and as to all supplies he has to complete in accordance with the Bid document.
- 3.17.3 Bidder is advised to submit the bid on the basis of conditions stipulated in the Bid Document. Bidder's standard terms and conditions if any will not be considered. The cancellation / alteration / amendment / modification in Bid documents shall not be accepted by BREDA.
- 3.17.4 Bid not submitted as per the instructions to bidders is liable to be rejected. Bid shall confirm in all respects with requirements and conditions referred in this bid document.

## CONDITIONS OF CONTRACT

### 3.18 SCOPE OF WORK

3.18.1 The scope of work for the bidder include Identification of buildings, Obtaining No Objection Certificate (NOC)” from Distribution Company (DISCOM) for grid connectivity, complete design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of the grid connected rooftop solar PV project including Comprehensive Maintenance (CMC) of the project for a period of Five years after commissioning.

### 3.19 PROJECT COST

3.19.1 The Project cost shall include all the costs related to above Scope of Work. Bidder shall quote for the entire facilities on a “single responsibility” basis such that the total Bid Price covers all the obligations mentioned in the Bidding Documents in respect of Design, Supply, Erection, Testing and Commissioning including Warranty, Comprehensive Maintenance for a period of 5 years for estimated 40 MW under CAPEX Model, goods and services including spares required if any during O&M period. The Bidder has to take all permits, approvals and licenses, Insurance etc., provide training and such other items and services required to complete the scope of work mentioned above.

3.19.2 The project cost quoted is on lump sum turnkey basis and the bidder is responsible for the total Scope of Work described at Clause 3.18.1 above.

3.19.3 The project cost shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work for payment of subsidy amount irrespective of bidder’s actual cost of execution of the project. No escalation will be granted on any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.

3.19.4 The project cost shall be inclusive of all duties and taxes, insurance etc .The prices quoted by the firm shall be complete in all respect and no price variation /adjustment shall be payable

3.19.5 The Comprehensive Maintenance of Solar Photovoltaic Power Plant would include wear, tear, overhauling, machine breakdown, insurance, and replacement of defective modules, invertors / Power Conditioning Unit (PCU), spares, consumables & other parts for a period of 5 years.

3.19.6 The project cost shall be specified in sanction letter based on Successful Bidder’s quote. The project cost shall be in accordance with all terms, conditions, specifications and other conditions of the Contract as accepted by the BREDA and incorporated into the sanction letter.

3.20 The Bidder shall complete the **price bid as per Format- B (Section-IV)** furnished in the RFP Documents.

### 3.21 INSURANCE

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

### 3.22 WARRANTIES AND GUARANTEES

3.22.1 The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide system warrantee covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of 5 years from the date of commissioning. The successful bidder has to transfer all the Guarantees /Warrantees of the different components to the Owner of the project. The responsibility of operation of Warrantee and

Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be joint responsibility of the Successful bidder and the owner of the project and BREDA will not be responsible in any way for any claims whatsoever on account of the above.

### 3.23 **TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP**

3.23.1 The Design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/Indian Standards as detailed in the Section- III (Technical specifications) of the bid document. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE shall be used.

3.23.2 The specifications of the components should meet the technical specifications mentioned in Section III.

3.23.3 Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth Comprehensive Maintenance of the SPV plant.

3.23.4 The Bidder shall be responsible for sample quality testing of material of the Roof Top Solar PV system. All the lab testing and sampling cost shall be borne by the bidder through NABL/MNRE approved lab.

### 3.24 **COMPREHENSIVE MAINTENANCE CONTRACT (CMC)**

The bidder shall be responsible for Comprehensive Maintenance of the Roof top Solar PV system of capacity from 1 kWp to 500kWp for a period of 5 years after commissioning, during which BREDA will monitor the project for effective performance in line with conditions specified elsewhere in the bid document, the bidder shall be responsible for supply of all spare parts as required from time to time for scheduled and preventive maintenance, major overhauling of the plant, replacement of defective modules, inverters, PCU's etc and maintaining log sheets for operation detail, deployment of staff for continuous operations and qualified engineer for supervision of CMC work, complaint logging & its attending.

### 3.25. **METERING AND GRID CONNECTIVITY**

Metering and grid connectivity of the roof top solar PV system under this scheme would be the responsibility of the Bidder in accordance with the prevailing guidelines of the DISCOM.

### 3.26 **PLANT PERFORMANCE EVALUATION**

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the GHI levels of the location during the CMC period. PR should be shown minimum of 70% at the time of inspection for initial commissioning. Minimum CUF of 15% should be maintained for a period of 5years. The bidder should send the periodic plant output details to BREDA for ensuring the CUF. The PR will be measured at Inverter output level during peak radiation conditions.

### 3.27 **PROGRESS REPORT**

The bidder shall submit the progress report monthly to BREDA in prescribed Performa. BREDA will have the right to depute their representatives to ascertain the progress of contract at the site.

### 3.28 **PROJECT INSPECTION.**

- 3.28.1 The project from 1 kWp to 500kWp progress will be monitored by BREDA and the projects will be inspected for quality at any time during commissioning or after the completion of the project either by officer(s) from BREDA or any authorized agency/ experts. All the expenses for inspection in this regard shall be borne by the Bidder only.
- 3.28.2 BREDA reserves the right to do sample inspection checks for the projects commissioned by the Bidder.
- 3.28.3 BREDA may also depute a technical person(s) from its list of empanelled experts for inspection, Third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the manufactures facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities as and when required.

### **3.29 APPLICABLE LAW**

The Contract shall be interpreted in accordance with the laws of the Union of India.

### **3.30 ARBITRATION AND JURISDICTION**

- 3.30.1 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.
- 3.30.2 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.
- 3.30.3 If the parties has 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.

### **3.31 FORCE MAJEURE**

- 3.31.1 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 fulfil his obligation under this contract due to force majeure conditions.
- 3.31.2 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.
- 3.31.3 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.
- 3.31.4 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.

### **3.32 LANGUAGE**

All documents, drawings, instructions, design data, calculations, operation, maintenance and safety

manuals, reports, labels and any other data shall be in English Language. The contract agreement and all correspondence between the BREDA and the bidder shall be in English language.

### **3.33 OTHER CONDITIONS**

3.33.1 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.

3.33.2 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.

3.33.3 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.

### **3.34 SEVERABILITY:**

It is stated that each paragraph, clause, sub-clause, schedule or annexure of this contract shall be deemed severable & 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 & effect.

### **3.35 COUNTERPARTS:**

This contract may be executed in one or more counterparts, each of which shall be deemed an original & all of which collectively shall be deemed one of the same instrument.

### **3.36 RIGHTS & REMEDIES UNDER THE CONTRACT ONLY FOR THE PARTIES:**

This contract is not intended & shall not be construed to confer on any person other than the BREDA & Successful bidder hereto, any rights and / or remedies herein.

## **SECTION-II**

### **4. EVALUATION CRITERIA FOR BIDDERS**

#### **4.1 BID EVALUATION**

The evaluation process comprises the following four steps:

Step I	Responsiveness check of Techno Commercial Bid
Step II	Evaluation of Bidder's fulfilment of Eligibility Criteria
Step III	Evaluation of Price Bid
Step IV	Successful Bidders(s) selection

#### **4.2 RESPONSIVENESS CHECK OF TECHNO COMMERCIAL BID**

The Techno Commercial Bid submitted by Bidders shall be scrutinized to establish responsiveness to the requirements laid down in the RFP subject to minimum eligibility criteria. Any of the following may cause the Bid to be considered "Non-responsive", at the sole discretion of BREDA:

- 4.2.1 Bids that are incomplete, i.e. not accompanied by any of the applicable formats inter alia covering letter, power of attorney supported by a board resolution, applicable undertakings, format for disclosure, valid Bid Bond, etc.;
- 4.2.2 Bid not signed by authorized signatory and /or stamped in the manner indicated in this RFP;
- 4.2.3 Material inconsistencies in the information /documents submitted by the Bidder, affecting the Eligibility Criteria;
- 4.2.4 Information not submitted in the formats specified in this RFP;
- 4.2.5 Bid being conditional in nature;
- 4.2.6 Bid not received by the Bid Deadline;
- 4.2.7 Bid having Conflict of Interest;
- 4.2.8 Bidder delaying in submission of additional information or clarifications sought by BREDA as applicable;
- 4.2.9 Bidder makes any misrepresentation.

Each Bid shall be checked for compliance with the submission requirements set forth in this RFP before the evaluation of Bidder's fulfilment of Minimum Eligibility Criteria shall be used to check whether each Bidder meets the stipulated requirement.

#### **5.0 PRELIMINARY EXAMINATION**

The BREDA will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and stamped and whether the Bids are otherwise in order.

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total Amount that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total amount shall be corrected. If there is a discrepancy between words and figures, the amount written in words will prevail.

#### **6.0 EVALUATION OF BIDDER'S FULFILMENT OF ELIGIBILITY CRITERIA**

6.1 Evaluation of Bidder's Eligibility will be carried out based on the information furnished by the Bidder as per the prescribed Formats and related documentary evidence in support of meeting the Minimum Eligibility Criteria. Non-availability of information and related documentary evidence for the satisfaction of Eligibility Criteria may cause the Bid to be non-responsive.

## 6.2 EVALUATION OF PRICE BID

Price Bid (Online Mode) of the Qualified Bidders shall be opened in presence of the representatives of such Qualified Bidders, who wish to be present, on a date as may be intimated by BREDA to the Bidders through BREDA website [www.breda.bih.nic.in](http://www.breda.bih.nic.in) / ETS portal [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) or Email: [breda@breda.in](mailto:breda@breda.in). The evaluation of Price Bid shall be carried out based on the information furnished in Price Bid (Online Mode). The Price Bid submitted by the Bidders 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" at the sole decision of the BREDA.

## 6.3 SUCCESSFUL BIDDER(S) SELECTION

- 6.3.1 The Price part of only those tenderers, whose offer found technically and commercially acceptable after evaluation will be opened in the presence of tenderers or their authorized representative who chose to attend the meeting. The date to open the price part will be informed separately.
- 6.3.2 Based on the price bid quoted by the bidders, BREDA shall arrange the bids in the ascending order i.e. L1, L2, L3, \_\_\_ (L1 being the lowest project cost) in each slab.
- 6.3.3 **Lowest bidder (L1) in each slab will be declared as the successful bidder and will be award work order.**
- 6.3.4 **Initially Capacity allocation to L1 shall be maximum of their bided quantity or 20% of capacity in that slab.**
- 6.3.5 For further allocation, all the eligible firm will be offered to give their consent to match the lowest rates of slab(s) for which they have applied for and allocation of work will be awarded accordingly. The bidder who matches the L1 price will also be declared Successful bidder.
- 6.3.6 All the qualified bidders except the L1 bidder will give their consent through e-mail to execute the work at L1 price failing which it will be assumed that they are not interested to match L1 price.
- 6.3.7 **Rest of the capacity will be distributed uniformly among all qualified bidders (including L1) who have bided for that slab and have agreed to match L1 price for that slab (subject to maximum of their bid quantity).**
- 6.3.8 BREDA would also be taking applications from Private as well as Government buildings for installation of rooftop solar PV project. It will be allotting those projects to successful bidders in proportion to their allocated capacity in the bid. Total of such capacities may be less or equal to capacity allocated to bidders in bid. For remaining allocated capacity; it would be the responsibility of the bidder to generate demand on the offered Bid Quote
- 6.3.9 The Notification of Award (NOA) shall be issued to all such Successful Bidders(s) selected.
- 6.3.10 Each Successful Bidder shall acknowledge the NOA and return Original copy with signature & stamp of the authorized signatory of the Successful Bidder to the BREDA within Fourteen (14) days of issue of NOA.
- 6.3.11 If the Successful Bidder, to whom the Notification of Award has been issued and the same has been accepted by the bidder and bidder does not fulfill any of the conditions specified in Bid document, the BREDA reserves the right to annul / cancel the award of the Notification

of Award of such Successful Bidder and forfeit the EMD.

- 6.3.12 The BREDA at its own discretion, has the right to reject any or all the Bids without assigning any reason whatsoever, at its sole discretion
- 6.3.13 There shall be no negotiation on the quoted Project cost or Subsidy requirement between the BREDA and the Bidder(s), during the process of evaluation.

#### 6.4. **INCREASE/DECREASE OF BIDDER ALLOCATED CAPACITY**

- 6.4.1 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.
- 6.4.2 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.

#### 6.5. **TRANSFER OF CAPACITY**

- 6.5.1. At sole discretion of BREDA, BREDA may allow transfer of allocated capacity in full or part thereof. However, such transfer shall generally be allowed as per Bidder request, if agreed by BREDA.
- 6.5.2. Amended/ Additional Performance security (CPG pertaining to additional capacity allocated or capacity transferred) shall be submitted by bidder within 30 days from the date of issue of such notification.

**Note:** Increase / decrease / transfer of the Successful Bidder Capacity at the time of allocation will be at the sole discretion of BREDA.

#### 6.6 **NOTIFICATION TO SUCCESSFUL BIDDERS**

The name of Successful Bidders shall be notified indicating the allocated capacity and the awarded project price on website [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) and also shall be notified individually through Notification of Award.

#### 6.7 **PROJECT ALLOCATION AND SANCTION**

- 6.7.1 The identification of the projects (roof tops) at time of bidding is not mandatory. The Bidders, however, in their own interest are advised to carry out a preliminary survey of availability of roof tops in the districts of the States of Bihar as well as issue of Grid connectivity, as non-availability of roof tops and non-completion of other formalities after issue of work order will result in forfeiture of EMD/CPG amount submitted by them.
- 6.7.2 The Successful Bidders selected as described in Clause 6.3 above shall be issued Notification of Award (NoA) .
- 6.7.3 Successful bidders shall share the time and date stamping photographs of the roofs and location details with BREDA before entering into any legal agreement with the Owner. This has to ensure that the location identified by the Successful bidder is freshly identified and strictly complying the norms provided in Clause 13.2 below.
- 6.7.4 Onus of identifying the buildings/rooftops and completing the other documentation like finalizing the Project report and entering into agreements with the buildings / rooftops owners lies with the Successful Bidder within the above mentioned time frame even for the buildings / rooftops identified by BREDA for preferential installation.
- 6.7.5 After the Project Sanctioned Document have been submitted by the Successful Bidder/ Project Developer and accepted by BREDA”, BREDA will issue the Sanction Letter(s) for the Project (s) indicating the subsidy amount(s) which will be disbursed in line with the provisions of the RFP document. The Bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within 120 days from the date of issue of work order.



**7. OTHER CONDITIONS**

**7.1** Bidder or owner of the building has to obtain all the necessary approvals/Consents/Clearances required for Erection, Testing, Commissioning and CMC of the project including Grid connectivity. BREDA shall not have any responsibility in this regard.

**7.2 TERM OF PAYMENT OF CONTRACT PRICE**

**7.2.1** Forty (40) percent of the Contract Price on delivery of Plant and Equipment at Warehouse/Site in Bihar within thirty (30) days after material dispatch clearance certificate, test certificate of each plant and equipment (**Latest MNRE / NABL approved test certificate** for Invertors / PCU & Module test certificates, cables, junction box / enclosures for invertors / charge controller, lightning arrestor, Structures wind load bearing capacity certificate, GI certificate for Module Mounting Structures (MMS)), other applicable certificates as mentioned in the technical sheet for cables, switches/circuit breakers / connectors, lightning arrestors and BOM of each site on receipt of invoice in triplicate. The payment will be released only after the inspection has been done and the reports been submitted.

**7.2.2** Fifty (50) percent on completion of erection, testing and commissioning of the Plant and Equipment to the complete satisfaction of the Owner and after successful completion and submission of Photographs of Plant along with beneficiaries and a copy of respective IV curves of the modules, on receipt of invoice (original + two copies) along with the supporting documents of completion of Works and Performance and Guarantee Tests Reports. The bidder is also required to submit a consolidated data sheet stating the details as mentioned below:

Sr. No.	District	Name of the beneficiary	Beneficiary Bank Account Detail	Beneficiary Aadhar No. (copy of Aadhar to be attached)	Address with contact no.(Address proof to be attached)	Serial No. of the PCU	Serial No. of the Modules	Photograph of the beneficiary & Signature

The payment will be released only after the inspection has been done and the reports been submitted.

**7.2.3** Balance 10% of the contract price shall be paid in 5 yearly installments (2% per year) towards Comprehensive maintenance (which shall include regular Operation and Maintenance) against submission of 5 (five) BG's (each of 2% amount of work order value) for 12, 24, 36, 48 & 60 months validity respectively after successful commissioning of the solar PV power plant. These BGs under this clause shall be refunded on expiry of respective defect liability period of BG's every year.

**Note:** The bidder is required to submit a monthly report along with a consolidated 12 months report of the plants with a copy of the service log book as mentioned below along with the invoice for CMC.

Sr. No.	Name of Beneficiary	Address & location of the beneficiary	Date of Complaint	Date of complaint redressed	Issue at Site	Remarks of service Centre with date & Signature	Remarks of beneficiary with date & Signature

**Note:** The bidders are required to submit all the required documents for the release of payments failing in doing so, no claims for payments will be entertained.

### **7.3. 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.

### **7.4. ELIGIBILITY OF STANDALONE SYSTEM:**

7.4.1. Standalone system is not allowed under this scheme. The system should be grid connected.

### **7.5 REQUIREMENT OF APPROVALS ON MAKES OF THE COMPONENTS:**

7.5.1. The modules should be manufactured in India only. Rest of the components can be procured from any source. However these items should meet the Technical specification and standards mentioned in RFP.

### **7.6 OPERATION OF THE SYSTEM DURING WEEKENDS AND GENERAL HOLIDAYS AND CALCULATION OF CUF:**

7.6.1. During grid failure, the SPV system stops generating. Any instances of grid failure need to be mentioned in the monthly report and those instances need to be authorised by local DISCOM. Then the period will be excluded in calculation of CUF.

## **8. PENALTY FOR DELAY IN PROJECT IMPLEMENTATION**

8.1. BREDA will issue the sanction letter(s) for the Project (s) indicating the subsidy amount(s) which will be disbursed in line with the provisions of the RFP document. The Bidder shall complete the project identification, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within 120 days from the date of issue of work order.

8.2. If the successful bidder fails to commission the allocated capacity within 120 days from date of issue of work order, the penalty clause will be imposable. The usual terms of penalty is at the rate of 0.5 % of Project Cost delayed for a week or part thereof subject to a maximum of 10% of the total project value unless time extension is allowed by Director, BREDA. Tenderer has to accept the penalty clause failing which tender will be considered invalid. A penalty of INR 10/- per kWp per day, subject to the maximum of 2% Project Cost per year per system will be imposed on bidder after 7 days from the day it was informed about the defect / rectification till the same is rectified.

**Note: BREDA reserves the right to blacklist the contractor if required.**

### **9. TIME OF COMPLETION OF ALLOCATED CAPACITY:**

9.1 Project completion shall be **120 days from the date of issue of Work Order**. Failure of non- compliance of same shall lead to forfeiture of CPG.

9.2 For any additional capacity, bidder shall complete / commission the capacity within 120 days from the date of issue of work order.

## **10. STANDARDS**

The Goods supplied under this contract shall conform to the standards mentioned in the technical specifications and other sections of RFP and when no applicable standard is mentioned then to the latest authoritative standard issued by the concerned institution

appropriate to the goods, country of origin, MNRE as applicable.

#### **11. COMMISSIONING /COMPLETION CERTIFICATE:**

Application for completion/commissioning certificate:

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

#### **12. DOCUMENT SUBMISSION FOR ISSUE COMMISSINONING/ COMPLETION CERTIFICATE :**

For the purpose of this Clause 11 above the following documents will be deemed to form the completion documents:

- i. Checklist for inspection of Roof top SPV power plants as per approved format.
- ii. Project completion report from successful bidder as per approved format.
- iii. Project completion / satisfaction certificate from roof top from owners, DISCOM and BREDA.
- iv. Joint commissioning report will be signed by owner, DISCOM, BREDA and project developer.

#### **12.1 FINAL DECISION AND FINAL CERTIFICATE:**

**12.1.1** Upon completion of 5 years of CMC and subject to the Engineer-in-Charge being satisfied, the Engineer-in-Charge shall (without prejudice to the rights of the BREDA to retain the provisions of relevant Clause hereof) otherwise give a certificate herein referred to as the Final Certificate to that effect and the Successful bidder shall not be considered to have fulfilled the whole of his obligations under Contract until Final Certificate shall have been given by the Engineer-in-Charge notwithstanding any previous entry upon the Work and taking possession, working or using of the same or any part thereof by the Owner of Roof/BREDA.

#### **12.2. DEDUCTIONS FROM THE CONTRACT PRICE:**

12.2.1. All costs, damages or expenses which BREDA may have paid or incurred, which under the provisions of the Contract, the Successful bidder is liable/will be liable, will be claimed by the BREDA. All such claims shall be deducted the amount from any moneys due i.e., Performance Security or becoming due to the contractor or Successful bidder under the contract or may be recovered by actions of law or otherwise, if the Successful bidder fails to satisfy the BREDA of such claims.

#### **12.3. CORRUPT OR FRAUDULENT PRACTICES**

The BREDA requires that Successful Bidders/ Contractors should follow the highest standard of ethics during the execution of contract. In pursuance of this policy, the BREDA:

12.3.1. defines, for the purposes of this provision, the terms set forth as follows :

12.3.2. "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the bid process or in contract execution; and

- 12.3.3. “fraudulent practice” means a misrepresentation of facts in order to influence a bid process or the execution of a contract to the detriment of the BREDA/Govt scheme, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the BREDA of the benefits of free and open competition;
- 12.3.4. will declare a firm ineligible/debarred, either indefinitely or for a specific period of time, a GOVT contract if at any time it is found that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Government/ BREDA schemes.

### 13. **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 misbehaviour 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.

#### 13.1. **Defect Liability Period**

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.

## SECTION-III

### TECHNICAL SPECIFICATIONS

**The proposed projects shall be commissioned as per the latest technical specifications given by MNRE & as per NEC 690 & IEEE-1547 standard. Any shortcomings will lead to cancelation of subsidy in full or part as decided by BREDA & Competent Authority's decision will be final and binding on the bidder.**

#### 14. 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. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

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

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

#### 14.1 SOLAR PHOTOVOLTAIC MODULES:

14.1.1. The PV modules used should be made in India.

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

- a) For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701
- b) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum **250Wp** and above wattage. Module capacity less than minimum **250** watts should not be accepted
- c) Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.
- d) PV modules must be tested and approved by one of the IEC authorized test centres.
- e) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium.
- f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. BREDA/owners shall allow only minor changes at the time of execution.
- g) 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 of +/-3%.
  - II. The peak-power point voltage and the peak-power point current of any supplied module

and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

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

IV. IS 60904-1(I-V) curves at STC should be provided by bidder.

14.1.3. 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

14.1.4. **Warranties:**

a) Material Warranty:

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

b) Performance Warranty:

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

15. **ARRAY STRUCTURE**

- a) Hot dip galvanized MS mounting structures may be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum insulation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.
- b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed. 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).
- c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.
- d) Structural material shall be corrosion resistant and electrolytically compatible with the

materials used in the module frame, its fasteners, nuts and bolts(anti-theft only). Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.

- e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels
- f) Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.
- g) The total load of the structure (when installed with PV modules) on the terrace should be less than  $60 \text{ kg/m}^2$ .
- h) The minimum clearance of the structure from the roof level should be 300 mm.

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

- a) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.
- c) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- d) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification

#### 17. **DC DISTRIBUTION BOARD:**

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

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

- a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- b) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz
- e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.

- f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- g) Should conform to Indian Electricity Act and rules (till last amendment).
- h) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Variation in Supply Voltage	+/- 10%
Variation in Supply Frequency	+/- 3 Hz

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

- a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.
- b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

20. **PCU/ Inverter:**

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the “Power Conditioning Unit (PCU)”. In addition, the

PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as 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 frequency	50 Hz
Grid frequency synchronization range	+3 Hz or more
Ambient temperature considered	-10°C to 50°C
Humidity	95% (Relative Humidity)
Protection of enclosure	IP-20 (Minimum) for indoor IP-65 (Minimum) for outdoor
Grid frequency tolerance range	+3 Hz or more
Grid voltage tolerance	-20% to +15%
No-load losses	Less than 1% of rated power
Inverter efficiency (Minimum)	>95% (In case of 10kW or above with in-built galvanic isolation)



	>90% (In case of less than 10kW without in-built galvanic isolation)
THD	<3%
PF	>0.9

- a) 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.
- b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
- d) Built-in meter and data logger to monitor plant performance through external computer shall be provided. Overall efficiency for Grid Tied inverter as per EN50530
- e) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std.
- f) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS standard. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.
- g) The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

## 21. INTEGRATION OF PV POWER WITH GRID:

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

## 22. DATA ACQUISITION SYSTEM / PLANT MONITORING

- i. Data Acquisition System shall be provided for each of the solar PV plant above 10 kWp Capacity.
- ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC with UPS at site. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system (above 10 kW project only)
- iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system (above 10 kW project only)

- v. The following parameters are accessible via the operating interface display in real time separately for solar power plant:
  - a. AC Voltage.
  - b. AC Output current.
  - c. Output Power
  - d. Power factor.
  - e. DC Input Voltage.
  - f. DC Input Current.
  - g. Time Active.
  - h. Time disabled.
  - i. Time Idle.
  - j. Power produced
  - k. Protective function limits (Viz-AC Over voltage, AC Under voltage, over frequency, under frequency ground fault, PV starting voltage, PV stopping voltage).
- vi. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.
- vii. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.
- viii. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
- ix. Computerized AC energy monitoring shall be in addition to the digital AC energy meter.
- x. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
- xi. All instantaneous data shall be shown on the computer screen.
- xii. Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- xiii. Provision for Internet monitoring and download of data shall be also incorporated.
- xiv. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
- xv. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.
- xvi. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- xvii. Remote Monitoring and data acquisition through Remote Monitoring System software at the owner /BREDA location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and comprehensive maintenance/control to be ensured by the supplier. Provision for interfacing these data on BREDA server and portal in future shall be kept.

23. **TRANSFORMER “IF REQUIRED” & METERING:**

- a) Dry/oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work.

- b) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to BREDA before commissioning of SPV plant.
- d) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

#### 24. **POWER CONSUMPTION:**

- a) Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Finalization of tariff is not under the purview of BREDA or MNRE. Decisions of appropriate authority like DISCOM, state regulator may be followed.

#### 25. **PROTECTIONS**

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

##### 25.1. **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 IEC 62305 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

##### 25.2. **SURGE PROTECTION**

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

##### 25.3. **EARTHING PROTECTION**

- i. Each array structure of the PV yard 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. Earth Resistance shall be tested in presence of the representative of DISCOM/BREDA as and when required after earthing by calibrated earth tester. 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.
- ii. 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.

##### 25.4. **GRID ISLANDING:**

- i. In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as "islands." Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be

equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

- ii. 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

## 26. CABLES

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

- i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards
- ii. Temp. Range:  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ .
- iii. Voltage rating 660/1000V
- iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- v. Flexible
- vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use.
- vii. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified.
- viii. The Cable should be of copper as per standards selected that it should be compatible up to the life of the solar PV panels i.e. 25years.
- ix. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons. All cable schedules/layout drawings approved prior to installation.
- x. Multi Strand, Annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V ,UV resistant for outdoor installation IS /IEC 69947.
- xi. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%.
- xii. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.

## 27. CONNECTIVITY

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.

<b>Plant Capacity</b>	<b>Connecting voltage</b>
Up to 05 kW	240V-single phase or 415V-three phase at the option of the consumer
Above 05 kW and up to 50 kW	415V – three phase
Above 50 kW	At HT/EHT level (11kV/33kV/66kV) as per DISCOM rules

- i. The maximum permissible capacity for rooftop shall be 500 kWp for a single net metering point.
- ii. Utilities may have voltage levels other than above; DISCOMs may be consulted before finalization of the voltage level and specification is made accordingly.
- iii. For large PV system (Above 50 kW) for commercial installation having large load, the solar power can be generated at low voltage levels and stepped up to 11 kV level through the step up transformer. The transformers and associated switchgear would require to be provided by the SPV bidders.

**28. TOOLS & TACKLES AND SPARES:**

- i. After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. List of tools and tackles to be supplied by the bidder for approval of specifications and make from BREDA/ owner.
- ii. A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT 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

**29. DANGER BOARDS AND SIGNAGES:**

Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. Three signage shall be provided one each at control room, solar array area and main entry from administrative block. Text of the signage may be finalized in consultation with BREDA/DISCOM.

**30. FIRE EXTINGUISHERS:**

The fire fighting system for the proposed power plant for fire protection shall be consisting of:

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

**31. DRAWINGS & MANUALS:**

- i. Two sets of Engineering, electrical drawings (certified from MNRE empaneled chartered engineer above 10kWp) and Installation and CMC manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.
- ii. Approved ISI and reputed makes as per MNRE technical specifications for equipment be used.
- iii. For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to BREDA before progressing with the installation work

**32. PLANNING AND DESIGNING:**

- i. 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 for approval.
- ii. BREDA reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.
- iii. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

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

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

**34. 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.

**35. 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.

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	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures

applicable)	
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	



<p>IEC 62561 Series (Chemical earthing)</p>	<p>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</p>
<p>Junction Boxes</p>	
<p>IEC 60529</p>	<p>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</p>
<p>Solar PV Roof Mounting Structure</p>	
<p>IS 2062/IS 4759</p>	<p>Material for the structure mounting</p>

# SECTION -IV FORMATS FOR SUBMITTING RFP

**Format-1**

## Covering Letter

(The covering letter should be on the Letter Head of the Bidding Company)

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

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

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

\_\_\_\_\_

\_\_\_\_\_

Tel.#:

Fax#:

E-mail address#

To

The Director  
Bihar Renewable Energy Development Agency  
3<sup>rd</sup> Floor, SoneBhawan, Birchand Patel Marg  
Patna- 800001, Bihar

**Sub: Bid for “Design, Supply, Installation, Testing & Commissioning of Grid**

**Connected Rooftop Solar Photovoltaic (PV) Systems under CAPEX model for Estimated 40 MW at various locations in the State of Bihar”**

Dear Sir,

We, the undersigned....[insert name of the ‘Bidder’] having read, examined and understood in detail the RFP Document for **Design, Supply, Installation, Testing & Commissioning of Grid Connected Rooftop Solar Photovoltaic (PV) Systems under CAPEX model for Estimated 40 MW at various locations in the State of Bihar** hereby submit our Bid comprising of Price Bid and Techno Commercial Bid. We confirm that neither we nor any of our Parent Company / Affiliate/Ultimate Parent Company has submitted Bid other than this Bid directly or indirectly in response to the aforesaid RFP.

1. We give our unconditional acceptance to the RFP, dated.....and RFP Documents attached thereto, issued by BREDA, as amended. This shall also be construed as a token of our acceptance to the RFP Documents including all its amendments and clarifications uploaded on BREDA website. [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in)

We shall ensure that we execute such RFP Documents as per the provisions of the RFP and all provisions of such RFP Documents shall be binding on us.

2. **Bid Capacity**

We have bid for the .....MW cumulative capacity under CAPEX model and have accordingly submitted our Price Bids for the same.

Category A	..... kWp
Category B	..... kWp
Category C	..... kWp

3. **EMD**

We have enclosed a EMD of Rs..... (Insert Amount), in the form of bank guarantee no.....(Insert number of the bank guarantee) dated.....[Insert date of bank guarantee] as per Format .....from.....(Insert name of bank providing Bid Bond) and valid up to .....in terms of Clause .....of this RFP. The offered quantum of power by us is.....kWp. (Insert total capacity offered).

4. **Processing Fee**

We have enclosed DD of Rs.....{Insert Amount as per bid information of this RFP}, in the form of DD no.....(Insert number of the DD) dated.....[Insert date of DD] from .....(Insert name of bank providing DD). Further, We have enclosed DD of **Rs. /-** (Rs. \_\_\_\_\_ only) inclusive of Service tax, in the form of DD no.....(Insert number of the DD) dated.....[Insert date of DD] from .....(Insert name of bank providing DD).

5. We have submitted our Price Bid strictly as per Section IV of this RFP, without any deviations, conditions and without mentioning any assumptions or notes for the Price Bid in the said format(s).
6. In case we are a Successful Bidder, we shall furnish a declaration at the time of commissioning of the Project to the effect that neither we have availed nor we shall avail in future any subsidy other than received from BREDA for implementation of the project.

7. **Acceptance**

We hereby unconditionally and irrevocably agree and accept that the decision made by BREDA 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 by us.

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

9. We are enclosing herewith the Envelope-I (Covering letter, Processing fee and Bid Bonds) and Envelope-II (Techno-Commercial 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 BREDA. 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 12 month from the Bid deadline. We confirm that we have not taken any deviation so as to be deemed non-responsive.

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

Thanking you,

We remain,

Yours faithfully,

**Name, Designation and Signature of Authorized Person in whose name Power of Attorney/Board Resolution as per Clause.....is issued.**

**GENERAL PARTICULARS OF THE BIDDER**

**Bid for Design, Supply, Installation, Testing & Commissioning of Grid Connected Rooftop Solar Photovoltaic (PV) Systems under CAPEX Model for Estimated 40 MW including Comprehensive Maintenance for 05 years at various locations in the State of Bihar**

1	Name of the Company	
2	Registered Office Address	
3	Telephone, Telex, Fax No	
4	E-mail	
5	Web site	
6	<b>Category of Bidder/Type of Organization</b> Manufacturer/ System Integrator under the Companies Act, 1956 or 2013 <i>A copy of certificate of incorporation shall be furnished along with the bid in support of above.</i>	
7	Name of Directors of Company (at least Two directors with email IDs & contact Numbers)	(1) ..... (2) .....
8	Name & designation of the authorized signatory to whom reference shall be made (with contact Number)	
9	Registration number	
	GST No.	
	PAN	
10	Place & State of billing	
11.	Have the contractor/firm ever been debarred by any Govt. Deptt. /Public Sector Undertakings for undertaking any work?	
12	Bid offered for Capacity (Please mention the quantity/Category for which bid is offered)	Category A-1 : ..... kWp Category B-2 : ..... kWp Category C-3 : ..... kWp
13	Minimum Average Annual Turn Over of the bidder as computed for best 3 financial year out of last 5 financial year	
14	The bidder have positive net worth in the latest Financial Year. (Yes/No)	
15	Experience of the bidder in terms of capacity installed in kWp (verified by any Govt. department/ organization)	
16	Makes of Inverters offered for the system:	a. ...., b. ...., c. ...., d. .... etc. <i>(Test Certificates shall be attached)</i>
17	Name of the any close/near relative working in New & Renewable Energy Department, Bihar or BREDA	Name Designation Place of Posting Relationship
18	Reference of any document information attached by the Bidder other than specified in the RFS.	

**(Signature of Authorized Signatory)  
With Seal**

**(Shareholding Certificate)**

Name of the Equity Holder	Type and Number of shares owned	% of equity holding	Extent of Voting Rights

**(Signature of Authorized Signatory & Company Secretary)**

**With Seal**

**Stamp and Signature of the Company Secretary / Chartered Accountant**

**PRICE BID SHEET**

<b>Tender No.</b>	<b>NCB No: BREDA/TENDER/SPV/GCRTPV/1kWp-500kWp/23/2017-18</b>
<b>Name of Work for</b>	<b>Design, Supply, Installation, Testing &amp; Commissioning of Grid Connected Rooftop Solar PV Systems under CAPEX model for Estimated 40 MW including Comprehensive Maintenance for 05 years at various places in State of Bihar</b>
<b>Earnest Money (in Rs.)</b>	<b>INR 50000 /-per MW</b>
<b>Cost of Tender (in Rs.) (nonrefundable)</b>	<b>INR 15000 /-</b>

**FINANCIAL BID FORM**

**TO BE FILLED BY BIDDER**

<b>Name of the Contractor</b>												
<b>Address of the Contractor</b>												
<b>Description of System offered (The Bidder can quote any of the slab but work order will be awarded based on L1 price)</b>	<b>Design, Supply, Installation &amp; Commissioning and Comprehensive Maintenance for 5 year of 1 kWp to 10kWp Rooftop Solar Grid Connected Power Plant at Various Locations in the State of Bihar</b>				<b>Design, Supply, Installation &amp; Commissioning and Comprehensive Maintenance for 5 year of 11 kWp to 100 kWp Rooftop Solar Grid Connected Power Plant at Various Locations in the State of Bihar</b>				<b>Design, Supply, Installation &amp; Commissioning and Comprehensive Maintenance for 5 year of 101 kWp to 500 kWp Rooftop Solar Grid Connected Power Plant at Various Locations in the State of Bihar</b>			
	Price per Watt peak(Rs/Wp)	Tax Rate (%)	Tax	Total Amount	Price per Watt peak(Rs/Wp)	Tax Rate (%)	Tax	Total Amount	Price per Watt peak(Rs/Wp)	Tax Rate (%)	Tax	Total Amount
<b>Lump sum price should be fixed and firm covering the scope of work and inclusive of all taxes, levis, all types of transportation (source to destination), duties insurance coverage at all stages as specified under the description herein (IN INR) for Design, Supply, Installation &amp; Commissioning and Comprehensive Maintenance for 5 year per Wp Rooftop Solar Grid Connected Power Plant at various location in the State of Bihar (please mention the price in words as well as in figure. If any ambiguity arises price mentioned in words will be final and acceptable.)</b>												

If there are any changes in tax between the time of bidding and supply of material, the effect of such changes shall be borne by BREDA. i.e. any extra shall be paid on submission of documentary evidence & reduction in tax would accordingly be recovered from bill.

## Bihar Renewable Energy Development Agency

### Capacity Bid

<b>Tender No.</b>	<b>NCB No: BREDA/TENDER/SPV/GCRTPV/1kWp-500kWp/23/2017-18</b>		
<b>Name of Work for</b>	<b>Design, Supply, Installation &amp; Commissioning and Comprehensive Maintenance for 5 year per Wp Rooftop Solar Grid Connected Power Plant at various location in the State of Bihar</b>		
<b>EMD Amount (in Rs.)</b>			
<b>Cost Of Tender (In Rs.) (Non Refundable)</b>	<b>INR 15000 /- (Fifteen Thousand only)</b>		
<b>Name of the Bidder</b>			
<b>Address of the Bidder</b>			
<b>Bid Capacity Category</b>	<b>A = 1 kWp to 10kWp</b>	<b>B = 11 kWp to 100 kWp</b>	<b>C = 101 kWo to 500 kWp</b>
	<b>Capacity (kWp)</b>	<b>Capacity (kWp)</b>	<b>Capacity (kWp)</b>
<b>Design, Supply, Installation &amp; Commissioning and Comprehensive Maintenance for 5 year per Wp Rooftop Solar Grid Connected Power Plant at various location in the State of Bihar</b>			
<b>TOTAL Bid Capacity</b>	<b>X = A+B+C</b>		

(Signature of Authorised Signatory)

With Seal



**PROJECT COMPLETION SCHEDULE**  
**Zero Date (From Date of Issue of work order)**

S.No.	Milestones Activities	Commencement /Completion (in months from Zero Date)

Seal of Bidder Company

Signature \_\_\_\_\_  
Name \_\_\_\_\_  
Designation \_\_\_\_\_  
Date \_\_\_\_\_

**FORMAT FOR CONTRACT PERFORMANCE BANK GUARANTEE (CPG)**

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

In consideration of the ----- [Insert name of the Bidder] (hereinafter referred to as selected Successful Bidder (SB)) submitting the response to RFP inter alia for selection of the Project for the capacity of ..... MW under Roof Top scheme in response to the RFP No \_\_\_\_\_

dated..... issued by BREDA (hereinafter referred to as BREDA) and BREDA considering such response to the RFP of .....[insert the name of the Successful Bidder] (which expression shall unless repugnant to the context or meaning thereof include its executors, administrators, successors and assignees) and selecting the Solar Power Project of the Solar Power Developer and issuing Notification of Award No

----- to------(insert the name of the Successful Bidder(SB)) as per terms of RFP and the same having been accepted by the selected SB or a 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 **BREDA at 3<sup>rd</sup> Floor, “SoneBhawan”, Birchand Patel Marg, Patna – 800001. Bihar, India** forthwith on demand in writing from BREDA or any Officer authorised by it in this behalf, any amount upto and not exceeding Rupees----- [Total Value] only, on behalf of M/s \_\_\_\_\_ [Insert name of the selected Successful Bidder(SB)/ Project Company]

This guarantee shall be valid and binding on this Bank up to and including.....[insert date of validity]. and shall not be terminable by notice or any change in the constitution of the Bank or the term of contract or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

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

Our Guarantee shall remain in force until..... BREDA shall be entitled to invoke this Guarantee till .....

The Guarantor Bank hereby agrees and acknowledges that BREDA 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 BREDA, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to BREDA.

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

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Bihar 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 BREDA shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Successful Bidder(SB) / Project Company , to make any claim against or any demand on the Successful Bidder(SB)/ Project Company or to give any notice to the Successful Bidder(SB)/ Project Company or to enforce any security held by BREDA or to exercise, levy or enforce any distress, diligence or other process against the Successful Bidder(SB)/ Project Company .

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. \_\_\_\_\_ (Rs. \_\_\_\_\_ only) and it shall remain in force until .....

We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if BREDA serves upon us a written claim or demand.

Signature \_\_\_\_\_

Name \_\_\_\_\_

Power of Attorney No. \_\_\_\_\_

Email ID \_\_\_\_\_

For \_\_\_\_\_ [Insert Name of the Bank] \_\_\_\_\_

Banker's Stamp and Full Address.

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

Witness:

1. ....

Signature

Name and Address

2. ....

Signature

Name and Address

Notes:

1. Stamp Paper should be in the name of the Executing Bank and of appropriate value.
2. The Contract Performance Guarantee (CPG) shall be executed by any of the Nationalize Bank/ schedule commercial bank.

**CHECK LIST FOR BANK GUARANTEES**

Sl. No.	Details of Checks	YES/NO
a)	Is the BG on non-judicial Stamp paper of appropriate value, as per applicable Stamp Act of the place of execution	
b)	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 BG and the stamp paper should be purchased either in the name of the executing Bank or the party on whose behalf the BG has been issued. Also the Stamp Paper should not be older than six months from the date of execution of BG).	
c)	Has the executing Officer of BG indicated his name, designation and Power of Attorney No. / Signing Power no. on the BG?	
d)	Is each page of BG duly signed / initialled by executants 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?	
e)	Does the Bank Guarantees compare verbatim with the Performa prescribed in the Bid Documents?	
f)	Are the factual details such as Bid Document No. / Specification f) No., / LOA No. (if applicable) / Amount of BG and Validity of BG correctly mentioned in the BG	
g)	Whether overwriting/cutting if any on the BG have been properly authenticated under signature & seal of executants?	

**POWER OF ATTORNEY**

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

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

Know all men by these presents, We .....  
(name and address of the registered office of the Bidding Company as applicable) do hereby constitute, appoint and authorize Mr./Ms. .... (name& residential address) who is presently employed with us and holding the position of ..... as our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid for implementation of grid connected Roof top solar PV scheme in selected States in India in response to the RFP. No..... dated ..... issued by BREDA, Bihar 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 BREDA may require us to submit. The aforesaid Attorney is further authorized for making representations to the BREDA, Bihar and providing information / responses to BREDA, Bihar representing us in all matters before BREDA, Bihar and generally dealing with BREDA, Bihar in all matters in connection with this Bid till the completion of the bidding process as per the terms of the above mentioned 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 executant company) through the hand of Mr.....duly authorized by the Board (vide Board resolution No \_\_\_\_\_) 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.....(Board of Director's Resolution is also enclosed)**

**WITNESS**

1. ....

**(Signature)**

**Name.....**

**Designation** .....

2. ....  
**(Signature)**  
**Name**.....  
**Designation** .....

**Notes:**

The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and the same should be under common seal of the executant affixed in accordance with the applicable procedure. Further, the person whose signatures are to be provided on the power of attorney shall be duly authorized by the executant(s) in this regard.

The person authorized under this Power of Attorney, in the case of the Bidding Company / Lead Member being a public company, or a private company which is a subsidiary of a public company, in terms of the Companies Act, 1956, with a paid up share capital of more than Rupees Five crores, should be the Managing Director / whole time director/manager appointed under section 269 of the Companies Act, 1956. In all other cases the person authorized should be a director duly authorized by a board resolution duly passed by the Company.

Also, wherever required, the executant(s) should submit for verification the extract of the chartered documents and documents such as a Board resolution / power of attorney, in favour of the person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).

**FINANCIAL ELIGIBILITY CRITERIA REQUIREMENT**  
**(To be submitted on the letterhead of Bidding Company)**

To,

The Director  
 Bihar Renewable Energy Development Agency  
 3<sup>rd</sup> Floor, Sone Bhawan, Birchand Patel Marg  
 Patna- 800001, Bihar

Sub: Bid for "**Design, Supply, Installation, Testing & Commissioning of Grid Connected Rooftop Solar Photovoltaic (PV) Systems under CAPEX Model for Estimated 40 MW including Comprehensive Maintenance for 05 years at various locations in the State of Bihar**" in response to the RFP No: \_\_\_\_\_ dated: \_\_\_\_\_

Dear Sir,

We submit our Bid(s) for the total capacity of ...kWp (Insert total offered capacity in kWp and submit details of our Financial Eligibility Criteria as follows:

**Bid Details**

S. No.	Bid Category	Bid Capacity (in kWp)
A	1 kWp – 10 kWp	
B	11 kWp – 100 kWp	
C	101 kWp – 500 kWp	
TOTAL Bid Capacity		

We certify that the Financially Evaluated Entity (ies) had an Annual Turnover as follows:  
 The Average Annual turnover of Rupees .....Crore per MW as computed for best 3 financial year out of last 5 financial year preceding the Bid Deadline subject to the condition  
 Net worth of Rs.....Crore computed as per instructions provided in Clause 3.3

**Financial eligibility criteria**

Name of Bidding Company	Financial year	Year of Incorporation of the Bidding company	Av. Annual Turnover (Rs. Crore) (As per audited balance sheets)	Net worth (in Rs. Crore) (As per latest Audited Accounts)

Yours faithfully

(Signature and stamp (on each page) of Authorized Signatory of Bidding Company.

Name: .....

Date: .....

Place: .....

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

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.

**Current Contract Commitments / Works In Progress  
(On the Letter Head of the Firm)**

<b>Name of the Contract</b>	<b>Owner's Name</b>	<b>Value of Outstanding Work in INR</b>	<b>Expected Completion Date</b>
1	2	3	4
1.			
2.			
3.			
4.			
5.			

Seal of Bidder Company

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

Date \_\_\_\_\_



**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:

## **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 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.
2. We declare that we have not taken any support from any of the independent Consultant or Consulting Agency who is associated with BREDA in any form while preparing RFP.
3. 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.

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)

Seal