



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

**Expression of Interest (EOI)**

**For**

**Empanelment of Agencies for “Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar”.**

**EoI No: BREDA/TENDER/SPV/GCRTPV/01kWp-500kWp/08/2023-24**

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

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Patna – 800021. Bihar

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# Bihar Renewable Energy Development Agency

A Government Agency Under Energy Department

2<sup>nd</sup> Floor, Vidyut Bhawan, Building No.- 02, Bailey Road, Patna – 800 021

Website: <https://breda.bih.nic.in> Email ID: [breda.gov@gmail.com](mailto:breda.gov@gmail.com)

## Bid Information Sheet

**EOI No. BREDA/TENDER/SPV/GCRTPV/01kWp-500kWp/08/2023-24**

Description of work	EMD	Tender Document Cost	Bid Processing Fee
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 <b>Empanelment of Agencies for “Design, Supply, Erection, Testing &amp; Commissioning including Warranty, Comprehensive Operation &amp; Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar”</b> .	Rs. 01 <b>Crore</b> (to be paid through (Internet Payment Gateway (IPG), Challan) or Bank Guarantee from any Nationalized/ Scheduled Commercial Bank).	Rs. 11,800/- inclusive GST @ 18%  (Non-Refundable)  To be paid through online modes i.e. Internet Payment Gateway (Credit/Debit Card), Net Banking, etc.	As per E-Proc2

### *The Timeline for the above Tender is as follows:*

Start Date of Online Sale of Tender Document	24/04/2024 at 11 .00 Hrs. onwards
Pre-Bid Meeting Date (Physical)	08/05/2024 at 11 .00 Hrs. <b>Bihar Renewable Energy Development Agency”, 2<sup>nd</sup> Floor, Vidyut Bhawan, Building No.2, Bailey Road, Patna – 800021. Bihar.</b>
Last Date of Online submission of Tender Document	Upto 23:30 Hrs. of 27.05.2024
Last Date of Submission of Original EMD & Receipt of Tender Document Cost, Bid Processing Fee along with Signed & Sealed Tender Document with All Required Mandatory Supporting Documents in <b>Hard Copy</b>	Upto 14:00 Hrs. of 28.05.2024
Date of Opening of Techno-Commercial Part (Part-I)	15:30 Hrs. onwards on 28.05.2024
Date of Opening of Financial Part (Part-II)	To be intimated to the eligible Bidders through e-mail.

### *Minimum Eligibility Criteria are as follows:*

- (i) The Bidder should be incorporated in India under Companies Act, 1956 or 2013/ and further amendment (s)  
Or  
(ii) A Limited Liability Partnership Firm (LLP) registered under section 12 of Limited Liability Partnership Act, 2008  
Or  
(iii) Any combination of such entities eligible as per 1(i) & 1(ii) above, is also eligible to bid in the form of a Joint Venture (JV) under an existing agreement. In the case of JV, the number of partners shall not exceed 02 (two) partners. No change in the structure / constitution of the JV shall be permitted at any stage during bidding or execution of the Contract in the event of award.
- The Minimum Capacity to be quoted by the bidder must be **10 MW**.
- The bidder should have cumulative experience of executed **>= 05 MW** SPV Solar Power Plant in India in government sector during last 5 years from the date of submission of bid. (Required experience certificate issued from SNA/ Gov. Organization/ SECI/ DISCOM).
- Bidder should have financial capacity of:
  - Minimum Average Annual Turnover (MAAT) of **Rs. 15 Crore in the last 03 financial years (i.e. 2020-21, 2021-22 & 2022-23 or as applicable)**. (The bidder should submit an Audited Financial Statement having UDIN of CA firm issued by ICAI

mentioned thereon along with ITR for the last 3 years to this effect).

**AND**

(ii) The bidder shall also have to furnish their line of credit of 05 Crore and the Banker should confirm that the Credit facility is earmarked for the Works specified under Bid on receipt of the Bid. Line of Credit would include unincumbered cash (and equivalents), bank deposits with maturity less than 365 days, securities that can be freely traded or maturity less than 365 days and receivables which has general certainty of getting received minus payables which has general certainty of getting paid.

5. Bidder(s) should have positive (+ve) Net worth at the close of the preceding (i.e. 2022-23 or as applicable) financial year.
6. Bidders should have a valid PAN & GST registration certificate.
7. Bidder(s) should not have been Blacklisted / Debarred/ Banned by any Government Department, Organization, Agency, Authority, or any Public Sector Undertaking owned by the Government as on the date for Bid submission. **Undertaking to this effect on Rs. 1000/- Non- Judicial Stamp paper duly notarized shall be submitted by the bidder at the time of bid submission.** Failing which the bid shall be liable to be rejected.

➤ **Bid Information**

1. Bids against this tender are being invited through e-Tendering mode only. Tender document is available in downloadable format at <https://eproc2.bihar.gov.in> after paying tender document fee which is mandatory to be paid through online modes i.e. Internet Payment Gateway (Credit/Debit Card), Net Banking, etc.
2. Bid along with necessary online payments must be submitted through e-procurement portal <https://eproc2.bihar.gov.in> before the date & time specified in the NIT. The department doesn't take responsibility for the delay/ non-submission of Tender/ Non-Reconciliation of online payment caused due to non-availability of internet connection, network traffic, holidays or any other reasons.
3. Bid must be accompanied with scan copy of Acknowledgement of online payment of Tender Document Cost & E-Tender Processing Fee and Original Bank Guarantee towards Bid Security (EMD) & Original Demand Draft towards Bid Processing Fee must be submitted to Project Director, BREDA 2nd Floor, Vidyut Bhawan, Building No.2, Bailey Road, Patna Upto 14:00 Hrs. of **28.05.2024** failing which the bidder will not be eligible.
4. Bidders are required to submit the documentary proof for the qualifications mentioned above.
5. Notwithstanding anything stated above, BREDA reserves the right to assess the capabilities and capacity of the Bidder to perform the Contract, the circumstances warrant such assessment in the overall interest of BREDA.
6. All documents must be received in hard copy by BREDA not later than the time and date stated in the Invitation for Bid (IFB). Each Envelopes should be duly sealed, stamped and marked with EoI Number and should be superscribed on the envelope as "Expression of Interest (EoI) for Empanelment of Agencies for "Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar".
7. All formats and relevant documents as required in the EOI shall be spiral bounded and should be flagged and page number with proper seal & signature on each page. Details of the flag should be mentioned in the covering letter.
8. Detailed EoI can be seen at website- [www.eproc2.bihar.gov.in](http://www.eproc2.bihar.gov.in) or [www.breda.bih.nic.in](http://www.breda.bih.nic.in)
9. The BREDA reserves the right to reject any or all Bids or cancel/withdraw the Invitation for Bids (IFB) without assigning any reason whatsoever and in such case, no Bidder/ intending Bidder shall have any claim arising out of such action.
10. BREDA intends to undertake a competitive bidding process to shortlist and qualify a suitable Bidder, who shall be eligible for evaluation of their price bids towards selection of the successful bidder in terms of the EoI for award of the project.
11. The successful Bidder, at the end of the bidding process, shall be awarded the contract by BREDA to implement the project on EPC basis. The Contractor (the successful Bidder) shall be responsible for Design, engineering, procurement, construction, and maintenance of the project in terms of the agreement to be signed between the contractor and BREDA. Further, the contractor shall be responsible for remedying all defects and deficiencies expected during the defect's liability period in terms of the EPC contract.
12. The details of the bidding process and summary of the scope of consultancy work for the project are included in the EoI document.
13. Any other information including corrigendum/addendum, if any, shall be uploaded on e-procurement website and the bidders are advised to follow and keep track of BREDA/e-procurement website for updated information if any. BREDA is not obligated to send/ communicate separate information in this regard. However, for any enquiry bidders may contact on following: -
  - (i) Contact No. 7366962559, 7903914218, 0612-2505730.
  - (ii) E-mail Id- [breda.gov@gmail.com](mailto:breda.gov@gmail.com)

Project Director,  
BREDA, Patna

**e-Procurement Help Desk**

Toll Free Number: 1800 572 6571, Email Id: [eproc2support@bihar.gov.in](mailto:eproc2support@bihar.gov.in)  
Working Hours: 8 AM to 7 PM (All days in week except Sunday and few selected state holidays),

## **DISCLAIMER**

1. Though adequate care has been taken while preparing the EOI 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 EOI document is complete in all respects and has been received by the Bidder.
2. BREDA reserves the right to modify, amend or supplement EOI documents including all formats and annexure at any time before Bid submission date. Interested Bidders are advised to follow and keep track of [www.eproc2.bihar.gov.in](http://www.eproc2.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 EOI 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 EOI, 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 EOI, unless as defined in EOI 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 / EOI Document” the following words and expression will have the meaning as herein defined where the context so admits:

- 1.1. “**APP**” shall mean Atactic Polypropylene Membrane (Water Proofing Material used on roofs)
- 1.2. “**Agency**” shall mean the successful bidder declared as per the terms and conditions of this EoI and LoI has been awarded by BREDA.
- 1.3. “**BCD**” shall mean Building Construction Department Government of Bihar.
- 1.4. “**B.I. S**” shall mean specifications of Bureau of Indian Standards (BIS);
- 1.5. “**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 EOI, in accordance with the terms and conditions hereof.
- 1.6. “**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.
- 1.7. “**Bid Deadline**” shall mean the last date and time for submission of Bidding response to this EOI as specified in Bid information Sheet.
- 1.8. “**Bid Capacity**” shall mean capacity offered by the bidder in his Bid.
- 1.9. “**Chartered Accountant**” shall mean a person practicing in India or a firm whereof all the partners practicing in India as a Chartered Accountant(s) within the meaning of the Chartered Accountants Act, 1949.
- 1.10. “**Competent Authority**” shall mean Director of BREDA, himself and/or a person or group of persons nominated by him for the mentioned purpose herein.
- 1.11. “**Commissioning**” means Successful energizing the inverter & Operation of the Solar Power Plant with Net-Metering by the Contractor, as defined in EOI.
- 1.12. “**Company**” shall mean a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto.
- 1.13. “**CMC**” shall mean Comprehensive Maintenance Contract of Rooftop Solar PV system for 5 years.
- 1.14. “**CPG**” shall mean the Contract Performance Guarantee.
- 1.15. “**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.  
$$CUF = \frac{\text{actual annual energy generated from the plant in kWh}}{(\text{installed plant capacity in kW} * 365 * 24)}$$
- 1.16. “**Eligibility Criteria**” shall mean the Minimum Eligibility Criteria as defined above in this EOI.
- 1.17. “**EMD**” shall mean the Earnest Money Deposit.
- 1.18. “**EOI**” shall mean Expression of Interest (EOI).
- 1.19. “**Financially Evaluated Entity**” shall mean the company which has been evaluated for the satisfaction of the Financial Eligibility Criteria
- 1.20. “**IEC**” shall mean specifications of International Electro-technical Commission.
- 1.21. “**JV**” shall mean joint venture of maximum two (2) parties.
- 1.22. “**kWp**” shall mean kilo-watt Peak.
- 1.23. “**kWh**” shall mean kilo-Watt-hour.
- 1.24. “**Vendor**” shall mean the manufacturer of the products proposed to be used in this project by the Agency.
- 1.25. “**MNRE**” shall mean Ministry of New and Renewable Energy, Government of India.

- 1.26. **“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.
- 1.27. **“Maximum Bid Capacity”** shall mean the maximum capacity for which the Bidder can submit its Bid.
- 1.28. **“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.
- 1.29. **“Project capacity”** means Capacity in kWp offered by the Bidder for each Site consisting of single or multiple roof tops of same or different type. The project capacity specified is on “DC” output Side only.
- 1.30. **“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.  
$$PR = (\text{Measured output in kW} / \text{Installed Plant capacity in kW} * (1000 \text{ W/m}^2 / \text{Measured radiation intensity in W/m}^2)).$$
- 1.31. **“Price Bid”** shall mean the Bidder’s quoted Price for this EOI.
- 1.32. **“PDI”** shall mean Pre-Dispatch inspection either carried out at the factory premises of the approved manufacturer/ vendor.
- 1.33. **“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.
- 1.34. **“Site”** shall mean rooftop of a Govt. Building
- 1.35. **“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.
- 1.36. **“Successful Bidder(s) /Contractor/Project Developers(s)”** shall mean the Bidder(s) selected by BREDA pursuant to this EOI for Implementation of Grid Connected Roof Top Solar PV System as per the terms of the EOI Documents, and to whom an Allocation Letter has been issued.
- 1.37. **“SNA”** shall mean State Nodal Agency.
- 1.38. **“TPA”** shall mean Third Party Agency nominated by BREDA.
- 1.39. **“Metering & Grid Connectivity”** Shall mean installation of all relevant meters as per DISCOM (SBPDCL/NBPDCL) guideline.
- 1.40. **“Wp”** shall mean Watt Peak.
- 1.41. **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 to give effect to each part.
5. The table of contents and any headings or subheadings 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 Expression of Interest for **Empanelment of Agencies for “Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar”**. The work (installation and commissioning with 5-year CMC) of solar power plant on the rooftop area of Government Buildings in State of Bihar must be executed in close coordination with concerned officials of BCD.
- 1.2 The Bidder is advised to carefully read all instructions and conditions of this EoI and understand the scope of work completely. All information and documents required as per the EoI 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 at 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 EoI, 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 EoI 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 EoI, irrespective of any defects, omissions or errors that may be found in EoI. 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 EoI.

#### **2.0 BID DETAILS:**

- 2.1 The bidding process under this EoI is for arranging the Empanelment for **Estimated Capacity of 200 MW 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. However, total capacity as indicated above may 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 SIZE OF THE PROJECTS:**

The size of each project shall be in the range of 01kWp to 500 kWp for identified locations of concerned govt. buildings in the districts. A Project may however comprise of several rooftop units /sites/buildings in a campus /premise having a single proper electrical connection. An electrical connection may have several buildings. A building or premise may have more than one source with dedicated meter. The agency has to install the meters (solar meter/check meter/net meter) as per site requirements and as per DISCOMS guidelines in force.

#### **2.3 MINIMUM BID CAPACITY**

The Minimum Capacity to be quoted by the bidder must be at least a minimum of 10 MW. If the offer quoted capacity by bidder is less than 10 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 B specified in Section-IV).

### 3 INSTRUCTIONS TO THE BIDDERS

- i. Bidder must meet the eligibility criteria independently as Bidding Company. 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 Service Centre(s) district-wise in Bihar along with two trained manpower having ITI qualification or higher. The service Centre(s) shall also be equipped with CCTV camera having online access with camera recording back up of at least three months.
- iii. Bid Document can also be viewed from website [www.eproc2.bihar.gov.in](http://www.eproc2.bihar.gov.in)

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

Sl. 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	General Particulars of the bidder	Format 2		
4	Project Completion Schedule	Format 3		
5	Earnest Money Deposit (EMD)	Format 4		
6	Format of CPG	Format 5		
7	Format of Checklist for Bank Guarantee	Format 6		
8	Letter of Authorization/ Power of Attorney	Format 7		
9	Financial Eligibility Criteria Requirement	Format 8		
10	Shareholding Certificate	Format A		
11	Bidding Capacity Sheet	Format B		
12	Current Contract Commitments / Work in Progress.	Format 9		
13	Bidder(s) should not have been blacklisted / Debarred by any Government Department, Organization, Agency, Authority, or any Public Sector Undertaking owned by the Government as on the date for Bid submission. <i>Undertaking to this effect on Rs. 1000/- Non- Judicial Stamp paper duly notarized shall be submitted by the bidder at the time of bid submission. Failing which the bid shall be liable to be rejected.</i>	Format 10		
14	DECLARATION (Required to be submitted by the Bidder on Original Letter Head of company)	Format 11		
15	Format of Contract Agreement	Format 12		
16	Format of Detailed project report	Format 13		
17	Format of Site Feasibility Report.	Format 14		
18	Format of Material Inspection Report.	Format 15		
19	Format of Work Completion Report.	Format 16		
20	Format of Project Completion Report.	Format 17		

21	Format of Comprehensive Maintenance Report.	Format 18		
22	Format of project Tracking	Format 19		
23	Format of Approval of Manufacturer/ Vendor of Module and Inverter	Format 20		
24	Format of Approval of Manufacturer/ Vendor of Type-B material	Format 21		
25	Format of Commissioning Report	Format 22		
26	Format of GCRT SPP Installation Report	Format 23		
27	Format of Rates for CMC from 6 <sup>th</sup> year to 10 <sup>th</sup> year	Format 24		
28	Format of Joint Deed of Undertaking by the Joint Venture Partners	Format 25		
<b>B. Documents to be attached with the Bid as Annexures in the same order as mentioned below</b>				
1	Business Profile of Bidder Company (Not more than one page of A4 size)	Annexure 1		
2	Certificate of Incorporation / Registration of Bidder Company	Annexure 2		
3	Attested copies of the valid Registration Certificates of GST, PAN, and all other applicable tax etc.	Annexure 3		
4	Signed and stamped copy of the Bidding Document including amendments/ clarifications, if any, issued by the BREDA.	Annexure 4		
5	MOA / AOA of companies	Annexure 5		
6	Required Experience certificates to meet the Minimum Eligibility Criteria Sl. No.3 ( <i>Experience certificate issued from SNA/ Gov. Organization/ SECI/ DISCOM</i> )	Annexure 6		
7	Statement of existing commitments and ongoing Govt. /PSU /MNC works along with supporting experience certificates	Annexure 7		
8	Declaration of testing equipment (As per MNRE Norms)	Annexure 8		
9	Minimum Average Annual Turnover (MAAT) of Rs. 15 Crore in the last 03 financial years (i.e. 2020-21, 2021-22 & 2022-23 or as applicable). <i>Audited Financial Statement for the last 3 years to this effect having UDIN of CA firm issued by ICAI mentioned thereon.</i>	Annexure 9		
10	Income Tax Return (ITR) for the last 03 financial year (i.e. 2020-21, 2021-22 & 2022-23 or as applicable).	Annexure 10		
11	Board Resolution for Authorised Signatory	Annexure 11		

**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 grounds for declaring the Bid as non-responsive. Each format must be duly signed and stamped by the bidder or authorized signatory of the Bidder.

**3.3 BID SUBMITTED BY A BIDDING COMPANY:**

The Bidding Company should designate one authorized 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 and execution of agreement etc. The Bidding Company should submit, along with Bid, a Power of Attorney in original (as per Format-7), authorizing the signatory of the Bid. The eligible bidder(s) shall qualify the following conditions:

- 1) In case of JV, the lead member shall participate in this EoI with own ID/DSC.
- 2) In case of JV, the bidding JV (also referred to as the Bidder) shall submit a Joint Deed of Undertaking in Technical Part of its bid, as per the format enclosed in this EoI. No change in the structure / constitution of the JV shall be permitted at any stage during bidding or execution of the Contract in the event of award.
- 3) In case of JV, the bank guarantee for EMD and CPG shall be submitted in the name of lead partner of the joint venture.
- 4) In case of Joint Venture for minimum eligibility, 100% of the required technical eligibility criteria shall be fulfilled by any of the partner of the Joint Venture (Either lead or other partner).
- 5) In case of Joint Venture for minimum eligibility, 100% of the required financial eligibility criteria shall be fulfilled by the lead partner of the Joint venture.
- 6) For the minimum eligibility criteria fulfilment, cumulative capacity in either financial or technical shall not be accepted.
- 7) MAAT and ITR for the last three financial year i.e 2020-21, 2021-22, 2022-23 or as applicable shall be submitted of the lead partner as per Format and Annexure prescribed in this EoI.
- 8) In case of Joint Venture, lead partner shall have to furnish line of credit of 05 Cr and the Banker should confirm that the Credit facility is earmarked for the Works specified under Bid on receipt of the Bid. Line of Credit would include unincumbered cash (and equivalents), bank deposits with maturity less than 365 days, securities that can be freely traded or maturity less than 365 days and receivables which has general certainty of getting received minus payables which has general certainty of getting paid.
- 9) Cumulative Experience of the executed  $\geq$ 5MW of SPV solar power plants in India in government sector during last five years from the date of submission of the bid shall be submitted of any partner of the joint venture (Either lead or other partner). *The Required experience certificate shall be issued from SNA/Govt. Organisation/SECI/DISCOM.*
- 10) The GST, PAN, ITR and MAAT (last three financial year i.e 2020-21, 2021-22, 2022-23 or as applicable), Positive Net-worth & Non blacklisting Declaration shall be mandatory for eligibility

for both the members of the Joint Venture.

11) As an exception to the eligibility of the bidding company or Joint Venture or LLP the following norms shall be adhered:

- a. **Sanctions:** Firms, which includes any of the parties in case of bidding Joint Venture is blacklisted by the Employer/ CPSEs or any of their subsidiaries/ Government of India/ Government of Bihar / any Regulatory Authority, as on the date of submission of Bid, are not eligible to bid.
- b. **Suspension:** Firm, which includes any of the JV parties in case of bidding Joint Venture as per EoI, under suspension by the Employer as the result of the operation of a Bid–Securing Declaration or Proposal-Securing Declaration, shall not be eligible to bid.
- c. **Prohibitions:** Firms, which includes any of the JV parties in case of bidding Joint Venture as per EoI, and individuals of a country or goods/ works/ services manufactured/ produced in a country shall be ineligible, if as a matter of law or official regulations, the Government of India prohibits commercial relations with that country.

12) To be eligible to bid, the Bidders must ensure compliance to the following, failing which they shall not be eligible:

**Restrictions under Rule 144 (xi) of GFR 2017: Restrictions on procurement from a bidder of a country which shares a land border with India**

I. Any bidder from a country which shares a land border with India will be eligible to bid only if the bidder is registered with the Competent Authority.

II. "Bidder" (Seller / Service Provider) means any person or firm or company, including any partner of the joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

III. "Bidder from a country which shares a land border with India" for the purpose of this Order/ Rule means: -

- a. An entity incorporated, established, or registered in such a country; or
- b. A subsidiary of an entity incorporated, established, or registered in such a country; or
- c. An entity substantially controlled through entities incorporated, established, or registered in such a country; or
- d. An entity whose beneficial owner is situated in such a country; or
- e. An Indian (or other) agent of such an entity; or
- f. A natural person who is a citizen of such a country; or
- g. A joint venture where any partner of the joint venture falls under any of the above

IV. The beneficial owner for the purpose of above clause will be as under:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means. Explanation—

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five percent of shares or capital or profits of the company;
- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;

2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

VI. The successful bidder shall not be allowed to sub-contract works to any Contractor/Bidder from a country which shares a land border with India unless such Contractor/Bidder is registered with the Competent Authority.

#### **3.4 CLARIFICATIONS AND PRE-BID MEETING**

- 3.4.1 BREDA will not enter any correspondence with the Bidders, except to furnish clarifications on EOI Documents, if necessary. The Bidders may seek clarifications or suggest amendments to EOI in writing, through a letter or by fax (and soft copy by e-mail) to reach BREDA at the address, date and time mentioned in the 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 is to clarify any issues regarding the EOI including 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 EOI**

- 3.5.1 At any time prior to the deadline for submission of Bids, BREDA may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the EOI 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://eproc2.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://eproc2.bihar.gov.in>.

### 3.6 BIDDING PROCESS

#### 3.6.1 BID FORMATS

The Bid in response to this EOI 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, BIDDING CAPACITY SHEET AND BIDDER FORMAT EXCEL SHEET)

- i. Covering Letter as per the prescribed Format-1.
- ii. Bid Processing Fee (as per e-proc2) to be paid through (Internet Payment Gateway (IPG))
- iii. Tender document cost @ Rs. 11,800/- (Including 18% GST) to be paid through (Internet Payment Gateway (IPG), Challan).
- iv. EMD @ 1,00,00,000/- in the form of Bank Guaranty from any Nationalized/ Scheduled Commercial Bank/ Internet Payment Gateway (IPG), Challan having the validity of twelve (12) months from the date of opening of technical bid as prescribed Format-4.
- v. Bidding Capacity Sheet as per prescribed Format- B
- vi. 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-7
- vii. General particulars of bidders as per Format-2

**Note: All formats and relevant documents as required in the EOI shall be spiral bounded and should be flagged and page number with proper seal & signature on each page by the bidder. 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 as per Annexure-2.
- iii. Details for meeting of Technical Eligibility Criteria along with documentary evidence for the same as per Annexure-6.
- iv. Document in support of meeting Minimum Eligibility Criteria as per Annexure-6.
- v. Details for meeting of Financial Eligibility Criteria in the prescribed Format-8 along with documentary evidence for the same as per Format-8.
- vi. Undertakings towards not being Blacklisted as per Format-10.
- vii. Board resolution for Authorized signatory as per Annexure- 10
- viii. Signed and stamped Copy of EOI 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 technical bid opening**, with the 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 the Letter of Intent, BREDA shall forfeit the EMD furnished by him. *Confirmation regarding the Bid offer's validity shall be clearly mentioned in the covering letter.*

3.7.2 In exceptional circumstances when a Letter of Intent is not issued, 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 of BREDA without forfeiting its Bid Security, in such case EMD/Bid Security shall be returned. In case a Bidder accepts the BREDA request to extend the bid validity then the bidder will not be allowed to

modify its Bid in any manner.

### **3.8 PERIOD OF VALIDITY OF CONTRACT**

- 3.8.1 The contract shall remain valid for a period of **Two (02) Years** from the date of signing of the Contract Agreement.
- 3.8.2 In exceptional circumstances, validity of Contract Agreement may be extended on or before the date of expiry on mutual consent of Agency and BREDA for **another Six (06) months**. The consent and the responses shall be made in writing. If Agency/ BREDA accepts to extend the validity of Contract Agreement, the validity of Contract Performance Guarantee (CPG) shall also be suitably extended by the agency. The Agency may refuse the request to extend the validity of the Contract Agreement without forfeiting its Contract Performance Guarantee (CPG). The Bidder shall not be permitted to modify its Bid for the same.

### **3.9 METHOD OF BID SUBMISSION**

- 3.9.1 The bidders shall submit their eligibility and qualification details, financial bid etc., in the online standard formats given for respective tenders on the e-Procurement website ([www.eproc2.bihar.gov.in](http://www.eproc2.bihar.gov.in)) at the respective stage only.
- 3.9.2 The bidders shall upload the scanned copies of all the relevant certificates, documents etc., in support of their eligibility criteria and other certificate /documents on the e-Procurement website.
- 3.9.3 The bidder shall sign on the supporting statements, documents, certificates, uploaded by him, owning responsibility for their correctness /authenticity.
- 3.9.4 Corrigendum/ Addendum, if any, will be published on the website itself.
- 3.9.5 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.
- 3.9.6 All the Two envelopes shall be kept in an outermost Envelope. All the envelopes should be super scribed as **“Empanelment of Agencies for “Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid-Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar”**.
- 3.9.7 The Bidders have the option of sending their offline documents either by registered post; or speed post; or courier; or by hand delivery, 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 the premature opening of the Price Bids in case of non-compliance with the above.
- 3.9.8 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 the original, duly signed by 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.
- 3.9.9 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.



3.9.10 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 EOI 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.

### 3.10 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 EOI.

### 3.11 EARNEST MONEY DEPOSIT (EMD)

**The Bidder shall furnish the Interest free EMD @ Rs. 1,00,00,000/-** to be paid through (Internet Payment Gateway (IPG), Challan) or Bank Guaranty from any Nationalized/ Scheduled Commercial Bank having the validity of Twelve (12) months from opening of Technical Bid. If the bidder fails to extend the EMD validity in line with the provision of clause no- 3.7 “Validity of Bid” as per request by **BREDA**, then EMD may be forfeited. The EMD of unsuccessful bidders shall be returned promptly and EMD of successful bidders shall be returned after the submission of CPG.

3.12 The Successful Bidder shall sign the contract agreement with BREDA within 07 days from the date of receipt of e-mail from BREDA.

3.13 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/ contract in any manner during the period of Bid validity specified in the EOI document.
- b) Hundred percent (100%) of the EMD amount if the Successful Bidder fails to sign the contract agreement with BREDA after receipt of mail for signing of contract agreement.
- c) Hundred percent (100%) of the EMD amount if the Successful Bidder fails to furnish the “Contract Performance Guarantee as per Work Order”.

### 3.13 CONTRACT PERFORMANCE GUARANTEE (CPG)

3.13.1 Successful Bidder or the Agency shall furnish the Contract Performance Guarantee as per Format-5 mentioned in this EoI.

3.13.2 The Contract Performance Security shall be denominated in Indian Rupees and shall be in the form of a Bank Guarantee.

3.13.3 While issuing BG applicant must mention receiver’s details as ICICI Bank, IFSC- ICIC0003342, Branch- Patna Bypass, Suman Plaza near Shivam Convent School, Patna at which SFMS IFN 760 messages shall be sent by issuing bank through SFMS to establish the authenticity of issued BG.

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

- a. If the Agency is not able to commission the projects or part of the project as per DISCOM guidelines, the CPG amount, pro-rata to the capacity not commissioned by the Agency shall be forfeited.

- b. Hundred percent (100%) CPG amount furnished for the Sanctioned Capacity if the Agency fails to Commission 100% of the Projects(s) under DISCOM guidelines.
- c. In all the above cases corresponding unidentified/non-commissioned capacity shall stand cancelled and may be awarded to other agencies, if required.

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

The Agency shall furnish Contract Performance Guarantee of **5% of the work order value** as mentioned in the work order in the form of BG (Bank Guarantee) as specified in the General Conditions of Contract. This CPG shall be submitted after issuance of work order but before raising any invoice on account of the work order. **No payment shall be processed / paid in case CPG as per work order has not been submitted by the agency.**

3.13.5 The Contract Performance Guarantee shall be **valid for a period of 69 (Sixty-Nine) months** from the date of issue of work order and shall be returned after satisfactory completion of all the responsibilities and obligations as per the conditions of the EoI/Contract agreement/work order.

#### **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 EOI.

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 EOI AND TO REJECT ANY BID**

3.15.1 This EOI 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 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 EOI 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 & shall be binding on the bidder.

#### **3.16 DEVIATION OF ALLOCATED CAPACITY**

3.16.1 Deviation is allowed upto 50% of quoted capacity/ Allocated Capacity of the agencies subject to the discretion of BREDA.

#### **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 must complete in accordance with the Bid document.

3.17.3 Bidder is advised to submit the bid based on 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 and shall not be limited to Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity, DPR preparation, Obtaining No Objection Certificate (NOC) from Distribution Company (DISCOM) for grid connectivity as per prevailing NET Metering Guidelines of concerned DISCOM, Supply and installation of solar meter, bidirectional meter(s) as per concerned Discom guideline, storage, establishment of warehouse in the allotted geographical area within one month after issue of first work order , civil works, erection, testing & commissioning of the grid connected rooftop solar PV project, online monitoring (RMS activation) including Comprehensive Maintenance (CMC) of the project for a period of Five years after commissioning and establishment of service centre district wise (having facilities for repair/replacement of modules, inverters and other plant equipment/items) along with at least two trained manpower having ITI qualification or higher . The service centre and warehouse shall also be equipped with CCTV camera having online access with camera recording back up of at least three months. The warehouse shall also have security guard round the clock. The warehouse shall be equipped with real time online system for tracking and monitoring of inventory levels. The Detailed Project Reports (DPR) must be submitted capacity-wise as per format mentioned in this EoI. Any work not mentioned above but is required to be done for successful commissioning of the project shall be done by bidder. Any work required for completion of the project but has not been done by the bidder shall be done by BREDA at bidder's cost and risk.
- 3.18.2 After Commissioning of the site but before the expiry of CMC period, if required Dismantling along with Shifting & Reinstallation may be done by the same agency as per instruction of BREDA. In such cases, additional charges as per volume of the work shall be payable to the agency after approval & sanction granted by BREDA. In case of storage is required, the same shall be provided by the beneficiary for safe custody of materials for re-installation.
- 3.18.3 BREDA reserves the right to send any material from the warehouse of the agencies, installed equipment at the site or during the CMC period of the plant to the NABL/ BIS/ MNRE accredited test lab for testing. BREDA shall bear all testing related expenses in this regard. In case, any defects or quality deviation are found in such tests, the agency must bear all the testing related expenses. Also, immediate remedies like replacement or rectification of such defective materials must be ensured by the agency as directed by BREDA, failing which BREDA may initiate strict financial and administrative sanctions on the agency as per EoI. At any point of time (at the factory premises or at warehouse or at site), if any defects or quality deviations are found or failure of any of the sample tests (manufactured for purpose of supply against this EoI) is recorded then the entire lot (for which the test were conducted) shall be rejected and the following actions shall be taken by BREDA at its discretion:
- (i) The manufacturer/vendor approval may be cancelled.
  - (ii) The entire lot has to be replaced without any cost implication to BREDA.
  - (iii) Repeated failure of sample tests shall lead to debarment and blacklisting of the agency and the vendor from rendering their services or products in all future projects of BREDA or Govt. of Bihar.
- 3.18.4 The Bidder shall supply and maintain district-wise kits of all the tools and tackles for the monitoring and performance check of the Solar power plant/ equipment i.e. 1. Clamp-Meter (compatible for 1000V DC able to measure Direct Current) 2. Multi-meter 3. Megger 4. Vernier Calliper, 5. Measuring Tape 6. Thermography Camera 7. Elcometer 8. Earth Resistance Meter 9. Continuity Tester 10. Weighing Machines 11. Torque Wrench and any test equipment /tools & tackles as required.
- 3.18.5 Each Bidder must supply one Laptop as per minimum technical specification mentioned below:
- Laptop 15.6 Inch Screen, Core I7 processor
  - 10th Generation FHD Laptop
  - 12 GB RAM, 2 TB HDD/ Genuine Windows 10 / Integrated Graphics card
  - Laptop Bag

- Mouse (Wi-Fi) + Mouse Pad
- Colour (Wi-Fi) Laser Printer with Scanner
- 64 GB Pen-drive-2 nos.
- Warranty & Insurance- To be extended upto 5 Years.

The above PC/System must be maintained for the entire contract period.

### 3.19 **PROJECT COST**

3.19.1 The Project cost shall consist of the total system cost including the cost of Design, Photovoltaic solar modules, inverters, balance of systems including cables, switches, circuit breakers, connectors, junction boxes, mounting structures, earthing, lighting arresters, weather monitoring system including pyranometer & anemometer (for 50 KWp and above), cost of meters along with other items as per concerned Discom guideline (solar meter & net meter(s)), Check meters (if applicable), establishment of the warehouse in the allotted geographical area within one month after issue of first work order, local connectivity cost, cost of civil works, foundations etc. and its installation, commissioning, transportation, insurance, cost of online monitoring (RMS) including all data related charges, CMC charges for 5 years, establishment of service centre district wise (having facilities for repair/replacement of modules, inverters and other plant equipment/items) along with at least two trained manpower having ITI qualification or higher, service centre and warehouse shall also be equipped with CCTV camera having online access with camera recording back up of at least three months, the warehouse shall also have security guard round the clock, warehouse shall be equipped with real time online system for tracking and monitoring of inventory levels, supply of kits of all the tools and tackles district-wise, maintenance of at least five(05) percent of spare parts of the installed components at the service-centres, applicable fees & taxes etc. 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, Installation, Testing & Commissioning with Comprehensive Maintenance Contract (5 Years) of Grid Connected Rooftop Solar Photovoltaic (PV) Systems under CAPEX model for Estimated Capacity of 200 MW at various Government Buildings in the State of Bihar along with goods and services including spares and tools & tackles during CMC period. The Agency has to take all permits, approvals and licenses, Insurance during Contract period, provide training, etc. and such other items and services required to complete the scope of work mentioned above.

3.19.2 The rates quoted is on lump sum turnkey basis and the bidder is responsible for the total Scope of Work.

3.19.3 The rates shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work. No escalation will be granted on any reason. 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.

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

3.19.5 The rates shall be in accordance with all terms, conditions, specifications, and other conditions of the Contract as accepted by the BREDA.

3.20 The Bidder shall complete the **price bid** as uploaded in the e-Procurement website ([www.eproc2.bihar.gov.in](http://www.eproc2.bihar.gov.in)).

### 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 to cover any type of force majeure/ theft/ peril/etc so that in case there is any damage at site, the same shall be rectified by the bidder at his cost within such time frame as approved by BREDA.

### 3.22 **WARRANTEES AND GUARANTEES**

3.22.1 The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent & latest technology and should incorporate all recent improvements in design and materials. The bidder shall provide system warranty covering the rectification of 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 must transfer all the Guarantees/ Warrantees of the different components to the Owner of the project. The responsibility of operation of Warranty and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be joint responsibility of the Successful bidder and the owner of the project and 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. Wherever 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 Agency without any extra cost and within the time schedule for efficient and smooth Comprehensive Maintenance Contract of the SPV plant.

3.23.4 The agency must submit all the relevant test certificates to BREDA as stipulated in tender document prior to initiating the procurement of the materials.

3.23.5 **Manufacturer/ Vendor Approval and Quality Assurance**

3.23.5.1 The Quality Assurance (QA) will be carried out by BREDA. BREDA may engage an Authorized representative responsible & accountable for assuring quality in works. For the purpose of material inspection, materials have been segregated into two categories as mentioned below:

3.23.5.2 **Type – A (Manufacturer/ Vendor Approval, Pre-Dispatch Inspection) :**

3.23.5.3 This shall include Type- A (Modules and Inverters), which involves important testing procedures and shall be purchased from the authorized Manufacturers/ Vendors approved by BREDA and PDI at factory premises shall be done.

3.23.5.4 Vendors shall be approved by BREDA, provided that the capability of manufacturer/Vendor is suitably assessed as per EoI, and the vendor has all the required test certificates in accordance with latest appropriate IEC/Indian Standards as detailed in the Section- III (Technical specifications) of the bid document for Modules and Inverters. The format for vendor approval is attached as Checklist with **Format 20**.

3.23.5.5 Subsequent to the approval of the Manufacturer/ Vendor, the agency shall have to inform BREDA about the readiness of the lot size of material which is to be dispatched

from the vendor's facility with a minimum Fifteen (15) days in advance notice for pre-dispatch inspection (PDI) by BREDA or TPA.

- 3.23.5.6 On receipt of such information, BREDA shall further inform to the agency on the confirmation of dates for inspection by BREDA/ TPA within seven days. The inspection of these materials will be carried out in the factory or warehouse in Bihar (as the case found fit by BREDA), before the dispatch or installation.
- 3.23.5.7 Inspections call raised by the agencies shall be carried out in the following manner:
- (i) **First inspection call of the Type-A material raised by the agencies from approved manufacturers/ vendors-** PDI shall be carried out and BREDA or TPA shall randomly select samples from the 1st lot and shall carry out necessary tests at the Lab of the Manufacturer. If any defects or quality deviation are found or failure of any of the sample tests is recorded then the entire lot shall be rejected and subsequently necessary action as per this EoI may be initiated.
  - (ii) **For subsequent inspections call raised by the agencies for Type-A material from approved manufacturers/ vendors-** PDI may be waived-off as the case found fit by BREDA. This shall be in discretion of BREDA.
- 3.23.5.8 The inspection reports for all the in-house/ acceptance /routine tests carried out at factory labs located in its premises along with observations, would be jointly signed by BREDA or TPA and the vendor. It may also to be noted that material clearance of the lot (DI) shall only be given on successful test results.
- 3.23.6 Type – B (On-site and Warehouse inspection):**
- 3.23.6.1 Vendors shall be approved by BREDA for Type- B materials, provided that the capability of manufacturer/Vendor is suitably assessed as per EoI, and the vendor has all the required certificates in accordance with latest appropriate IEC/ Indian Standards as detailed in the Section- III (Technical specifications) of the bid document.  
The format for vendor approval is attached as Checklist with **Format 21**.
- 3.23.6.2 This type includes the materials like cables, switches, circuit breakers, connectors, junction boxes, ACDB, DCDB, mounting structures, earthing, lighting arresters, weather monitoring system including pyranometer & anemometer, meters and metering units, connectors, fasteners etc and the materials may be inspected upon arrival at the warehouse of the agency in Bihar. The agency shall arrange to maintain the necessary tools and tackles required for inspection as per EoI.
- 3.23.6.3 Agency shall supply and maintain district-wise kits of all the tools and tackles for the monitoring and performance check of the Solar power plant/ equipment i.e. 1. Clamp-Meter (compatible for 1000V DC able to measure Direct Current) 2. Multi-Meter 3. Megger 4. Vernier-Calliper, 5. Measuring Tape 6. Thermography Camera 7. Elcometer 8. Earth Resistance Meter 9. Continuity Tester 10. Weighing Machine 11. Torque Wrench and any test equipment /tools & tackles as required.
- 3.23.7 The “Bihar Policy for Promotion of Bihar New & Renewable Energy Sources 2017”, along with any relevant policies for promotion of domestically manufactured products in the state of Bihar shall be applicable on the products to be procured by the agencies for establishment of GCRT SPP under this EoI.

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

The agency shall be responsible for Comprehensive Maintenance of the Roof top Solar PV system 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 agency 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 Type-A and Type-B materials as per section-III (Technical Specification) of this EoI 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. All the activities of CMC must be carried out by the agency as per Format 18. The CMC reports must be submitted by the agency as per the attached format 18 monthly, quarterly, half yearly & annually as per schedule mentioned in format.

**3.24.1** The bidders shall have to submit the rate for doing CMC for the next 5 years i.e from 6<sup>th</sup> year to 10 year as per Format 24. The decision to confer the work award after 5 years is at the discretion of BREDA. The rates quoted shall be for reference purpose only and not be an evaluation criterion for this EoI.

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

3.25.1 Metering and grid connectivity of the roof top solar PV system under this scheme would be the responsibility of the Agency in accordance with the prevailing guidelines of the concerned DISCOM. Solar meter, Net Meter/ Bi-directional meters along with any other items required for net metering and grid connectivity will be in the agency scope as per DISCOM guidelines and prevailing BERC tariff order.

3.25.2 The agency must connect the solar power plant to grid through grid connected inverter having the same phase as per the metering arrangement and site condition as per requirement.

- a. If there is single phase connection with whole current single-phase meter, then installation upto 05 kW with single-phase inverter may be installed.
- b. If there is three-phase connection and three-phase meter and the sanctioned load is 4KW or below, then installation up to 04 kW shall be considered as non-feasible.
- c. However, if at the site there exist three phase connection of sanction load 05 kW to 07 kW with LTCT meter then the agency must provide accordingly three phase inverter and three phase meter as per DISCOM guidelines and prevailing BERC tariff order.

3.25.3 The rates are inclusive of net metering activity as per the DISCOM guidelines related to net metering and prevailing BERC tariff order for metering related charges. However,

- (a) If in any case, net meter/ Smart Meter is already installed in the premises of the beneficiary, then the cost of the net meter deduction will be done at the SOR/ recommended rates of DISCOM from agency's payment as per the discom guidelines related to net metering and prevailing BERC tariff order along with administrative charges, if any.
- (b) if in any case, net metering activity is not done by the agency then the penalty shall be applicable as follows: -

the cost of the net meter along with all applicable charges at the SOR/ recommended rates of DISCOM as per the discom guidelines related to net metering and prevailing BERC tariff order along with administrative charges, if any, shall be deducted from the agency's payment and the penalty shall be 5% of the project cost.

3.25.4 If required, the agency must provide adequate service cable of average 30 meter (from point of supply or pole to meter) for each project and LTDB has also to be supplied (In case load enhancement with phase change is required at any site). In case, the average service cable required is more than 30 meters, BREDA may reimburse such cost at the SOR rates of DISCOM.

**Example:** If an agency is awarded with 100 sites and the cable requirement at 80 sites is 20 meters



(avg.) at each and the cable requirement for the balance 20 sites is 70 meters (avg.), then the agency shall have no extra claim as the total requirement of cable is equal to or within 3000 meters as stated in clause 3.25.4 ( i.e. 100 sites x 30 meters avg.)

### 3.26 **PLANT PERFORMANCE EVALUATION**

The agency shall be required to meet performance & generation at par with the relevant guidelines at the time of commissioning. The related Capacity Utilization Factor (CUF) or performance ratio as applicable has to be met at par with relevant guidelines during the commissioning & CMC period. Minimum CUF of 19% or as per latest BERC guideline should be maintained. Minimum PR of 75% or as per latest guidelines should be maintained. The agency should send the periodic plant output details to BREDA for ensuring the required CUF/ PR monthly or annually as applicable. The CUF/ PR will be measured as per relevant/ MNRE/ BERC guidelines. In case there is any difference between the minimum CUF/ PR and related generation, the same has to be justified and mentioned in the DPR and/or the periodic plant output details to be submitted by the agency to BREDA.

### 3.27 **PROGRESS REPORT**

#### **(A) INSTALLATION**

The agency shall submit the progress report fortnightly (15 days) to BREDA or as requested. BREDA will have the right to depute their representatives to ascertain the progress of contract at the site.

#### **(B) CMC**

The agency is required to submit a CMC report as per the attached format & mentioned scheduled with a copy of the service logbook, failing in doing so, no claims for payments for that period will be entertained. Monthly generation report along with PR & annual CUF has to be submitted along with documentary proof like RMS data.

### 3.28 **PROJECT INSPECTION.**

3.28.1 For all the projects in the size of 01 kWp to 5000 kWp, the progress will be monitored by BREDA and the projects will be inspected randomly for quality tests at any time during the commissioning period or after the completion of the project either by BREDA or any authorized agency/ experts

3.28.2 BREDA reserves the right to do sample inspection checks for the projects commissioned by the agency.

3.28.3 BREDA may also depute a technical person(s) from its list of empaneled 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 have not agreed to Sole Arbitration of the Conditions of the Contract, Governing contracts the dispute/claims arising out of the contract entered into with him will be subject to the jurisdiction of the High Court of Patna.

### 3.31 **FORCE MAJEURE**

3.31.1 Notwithstanding the provisions of clauses contained in this EOI 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 the 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 If the contractor is not able to fulfil his obligations under this contract on account of force majeure, he will be relieved of his obligations during the force majeure period. If 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 of 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 fulfilling 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:**

The contract agreement under this tender 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 instruments.

**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 EOI 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 EOI.
  - 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 EOI.
  - 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 EOI 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 (Technical) OF BIDDER'S FULFILMENT OF MINIMUM ELIGIBILITY CRITERIA**

6.0.1 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. BREDA may seek any clarification if required during technical evaluation. 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.

### 6.1 **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 ETS portal [www.eproc2.bihar.gov.in](http://www.eproc2.bihar.gov.in) or Email: [breda.gov@gmail.com](mailto:breda.gov@gmail.com). The evaluation of Price Bid shall be carried out based on the information furnished in Price Bid (Online Mode). The Price Bid (Financial Bid) s per format submitted by the Bidders shall be scrutinized to ensure conformity with the EOI. Any Bid not meeting any of the requirements of this EOI may cause the Bid to be considered "non-responsive" at the sole decision of the BREDA. BREDA may negotiate with the L1 bidder.

### 6.2 **SUCCESSFUL BIDDER(S) SELECTION**

- 6.2.1 The Price part of only those bidders, whose bid is found technically and commercially acceptable after evaluation, will be opened in the presence of evaluation committee members and bidders or their authorized representative who chose to attend the meeting. The date to open the price part will be informed separately.
- 6.2.2 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 price) for each capacity (i.e. from 01 kWp to 500 kWp).
- 6.2.3 Lowest quoted/negotiated price by bidder for each capacity (i.e. from 01 kWp to 500 kWp) will be declared as the L1 bidder.
- 6.2.4 Based on the L1 discovered price for each capacity, request shall be sent to all qualified bidders for consent of price match on L1 price of all capacities (i.e. from 01 kWp to 500 kWp).
- 6.2.5 All the qualified bidders except the L1 bidder for each capacity shall give their consent (mandatory) through e-mail to execute the work at L1 price for all other capacities, failing which it will be assumed that they are not interested to match L1 price and shall be declared as unsuccessful bidder.
- 6.2.6 The distribution of allocation of the quoted capacity shall be based on geographical area in Bihar and shall be at the discretion of BREDA.
- 6.2.7 The **Letter of Intent (LOI)** shall be issued to all such Successful Bidders(s) selected.
- 6.2.8 Each Successful Bidder shall acknowledge the LOI and submit the acceptance letter with sign & stamp of the authorized signatory of the Successful Bidder with the duly accepted copy of LOI to the BREDA within Seven (07) days of issue of LOI.
- 6.2.9 If the Successful Bidder, to whom the Letter of Intent 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 Letter of Intent of such Successful Bidder and forfeit the EMD.

### 6.3 INCREASE/DECREASE OF BIDDER ALLOCATED CAPACITY

- 6.3.1 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.
- 6.3.2 Deviation is allowed up to 50% of quoted capacity/ Allocated Capacity of the agencies. (based on the performance of the agencies), subject to the discretion of BREDA.
- 6.3.3 In case allocated capacity is modified by BREDA, successful bidder shall submit the equivalent amount of CPG / Amended CPG to BREDA within 07 days from the date of issue of work order.

### 6.4 TRANSFER OF CAPACITY

- 6.4.1 At sole discretion of BREDA based on the performance of the agencies, 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.
- 6.4.2 Amended/ Additional Performance security (CPG pertaining to additional capacity) shall be submitted by bidder within 07 days after issuance of work order.  
Note: Increase / decrease / transfer of the Successful Bidder Capacity at the time of allocation will be at the sole discretion of BREDA. BREDA may decide the allocation of leftover /remaining work to the selected bidders based on their performance.

### 6.5 NOTIFICATION TO SUCCESSFUL BIDDERS

The name of Successful Bidders shall be notified indicating the allocated capacity and the awarded L1 price.

### 6.6 PROJECT ALLOCATION AND SANCTION

- 6.6.1 The Successful Bidders selected as described above shall be issued a Letter of Intent (LoI) for signing of the contract agreement. Subsequent to the signing of Contract Agreement, the Work Order will be issued with List of sites & capacity to be installed.
- 6.6.2 The Bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within **150 days from the date of issue of work order.**

## 7. OTHER CONDITIONS

- 7.1 The 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 TERMS OF PAYMENT OF PROJECT COST

- 7.2.1 **Material Supply Payment:** Forty (40) percent of the project cost shall be released after delivery of complete materials related to Grid connected Rooftop Solar Power Plant (GCRT SPP) at Warehouse & after receipt of invoice in triplicate along with the documents mentioned below. The following procedures shall be followed for releasing the payment:
  - a) Material dispatch instruction document to be issued by BREDA.
  - b) Certified inspection report signed by BREDA after inspection of delivered Type-A materials at Warehouse in Bihar for ensuring the same Lot has been received for which PDI (if applicable) has been done.
  - c) Certified inspection report jointly signed by BREDA and Agency representative after inspection of delivered Type-B materials at Warehouse in Bihar.
  - d) Valid Test certificates for all Type-A and Type- B materials supplied as per Section-III of this EoI.
  - e) The payment will be released only after the complete material inspection of Type-A and Type- B along with receipt of all the test certificates and reports and after verification of

submitted test report as per the section- III of this EoI. No partial material inspection shall be allowed.

- f) The Invoice must be submitted/raised in triplicate for 40% of the project cost along with applicable GST.

**7.2.2 Installation and Commissioning Payment:** Fifty (50) percent of the project cost shall be released on completion of erection, testing and commissioning of the Plant and establishment of service center(s) in their allotted districts on the complete satisfaction of the Owner. The following procedures shall be followed for releasing the payment:

- (a) Certified inspection reports jointly signed by BREDA, Beneficiary and Agency representative after inspection of successful erection, testing and commissioning of the Plant has to be submitted as follows:
- (i) Photographs of the Plant with time and location stamped.
  - (ii) Project completion report (as per MNRE inspection format A, B and C) (As per Format 17)
  - (iii) GCRT Solar Power Plant Inspection Report (As per Format 23)
  - (iv) Commissioning Report (Provisional) for GCRT- SPP (with Net Metering Facility) (As per Format 22)
  - (v) Work completion report (As per Format 16)
  - (vi) Meter Fixing Slip issued by DISCOM.
  - (vii) Copies of I-V curves of the modules of the commissioned plant.
  - (viii) Copy of Insurance paper of installed SPV Plant.
  - (ix) Submission of tools and tackles along with laptop as per EoI.
  - (x) Establishment of Service center as per EoI along with details such as photographs, list of tools and tackles, testing equipment, stocks of spare parts, toll-free number, name of contact person and mobile number etc. The agency shall have to inscribe its name, address & toll-free number of the service center at all the solar PV plants installed.

7.2.2.1 The Invoice must be submitted/raised in triplicate for 50% of the project cost along with applicable GST.

- 7.2.2.1.1 (A) In case, Service Center is not established by the agencies in the allotted districts then 10% of the project cost will be kept on hold till the establishment of service center district wise.

(B) In case, solar power plant has been installed but after lapse of substantial time period the net meter installation could not be completed due to the issues at beneficiaries end like non-signing of net meter application and net meter agreement, unavailability of three phase power at beneficiary metering point or any other issues related to non-installation of net metering for which the bidder is not responsible and commissioning is pending, then in such cases 25% payment may be released (out of 50%) against installation and 25% may be hold and will be released after successful commissioning along with net meter installation and establishment of service center.

7.2.3 **CMC Payment:** Date of commissioning shall be the date of commencement of the grid connected solar power plant along with net meter and as per tender terms and conditions. The comprehensive maintenance contract start date shall start from the next day after the commissioning of plant. Balance 10% of the project cost shall be released in 5 yearly instalments (2% per year) towards Comprehensive maintenance (which shall include regular Operation and Maintenance) after successful commissioning of the solar PV power plant. The following procedures shall be followed for releasing the payment:

- (i) The Agency is required to submit a quarterly CMC report jointly certified by BREDA, Beneficiary, and the agency as per Format 18 along with time and location stamped photographs and a copy of the service logbook for the same period.
- (ii) Day wise Generation Report of the SPP at the time of submission of Invoice.
- (i) Copy of Insurance paper of installed SPV Plant.
- (ii) Functional Service center, tools and tackles, testing equipment, stocks of spares (at least 5%), toll-free number, name of contact person and mobile number etc. as per EoI
- (iii) The Invoice must be submitted/ raised in triplicate for 2% of the project cost along with applicable GST.

**Note:**

The agencies 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 Dept. 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/ off-grid 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 EOI.

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

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/PR.

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

- 8.1. The Bidder shall complete the project identification, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within 150 days from the date of issue of work order.
- 8.2. If the successful bidder fails to commission the allocated capacity within 150 days from date of issue of work order, the penalty clause will be imposable. The usual term 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 cost unless time extension is allowed by Director, BREDA. Tenderer must accept the penalty clause failing which tender will be considered invalid.
- 8.3. A penalty of INR 10/- per kWp per day, subject to the maximum of 2% of project cost per year per solar PV plant will be imposed on after 7 days from the day it was informed about the defect / rectification till the same is rectified during CMC period.



**Note: BREDA reserves the right to blacklist the contractor if required if the above clause does not meet.**

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

9.1 Project completion shall be **150 days from the date of issue of Work Order**. Failure of non-compliance of same shall lead to forfeiture of CPG/EMD (which ever shall be necessary).

**10. STANDARDS**

The Goods supplied under this contract shall conform to the standards mentioned in the technical specifications and other sections of EOI 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. EXPERIENCE CERTIFICATE (Issued by BREDA):**

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

**12. DOCUMENT SUBMISSION FOR ISSUE COMMISSIONING/ COMPLETION CERTIFICATE:**

For the purpose of the 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. Joint commissioning report signed by beneficiaries, BREDA, and bidder.
- iv. Meter fixing slip from DISCOM must be provided by bidder.

**12.1 FINAL CERTIFICATE:**

**12.1.1** Upon completion of 5 years of CMC and subject to the BREDA being satisfied, the BREDA 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. 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 BREDA.

**12.2. DEDUCTIONS FROM THE PROJECT COST AGAINST DAMAGE:**

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 money 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:

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

- 12.3.1. "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
- 12.3.2. "Fraudulent Practice" means a misrepresentation/concealment 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.
- 12.3.3. Will declare a firm ineligible/debarred, either indefinitely or for a specific period, 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 and BLACKLISTED**

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

- a) Non-performance regarding quality and supply schedule based on objective criteria.
- b) Non-compliance of CPG clauses as mentioned in this EoI.
- c) Non-compliance of Installation and Commissioning obligations as mentioned in this EoI.
- d) Non-compliance of CMC obligations as mentioned in this EoI.
- e) Attempt to bribe a BREDA official.
- f) Found engaging in corrupt or fraudulent practices.
- g) Failure of materials/ equipment's supplied in more than one contract.
- h) Established misbehaviour and threatening officials of BREDA.
- i) Blacklisting by other state, central utilities, or other government entities.

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

## **SECTION-III**

### **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 work orders in full or part as decided by BREDA & Competent Authority's decision will be final and binding on the bidder. All items supplied under this project shall maintain all relevant MNRE/GoI guidelines and standards (prevailing ALMM norms shall be taken into account while quoting of project).**

#### **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 daytime. 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 **Mono Crystalline or better** PV modules having an efficiency of at least 19.5 % or above as per prevailing ALMM norms.
- 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 indigenous and as per the latest prevailing guidelines of ALMM issued by the GoI.

14.1.2. The PV modules used must qualify to the latest edition of PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IS14286. In addition, the modules must conform to IEC 61730 Part 1 & Part-2- requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.

- a) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum **335Wp** and above wattage. Module capacity less than minimum **335** 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 NABL/MNRE 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, weatherproof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.

14.1.3. The Manufacturer should provide the following minimum information must be mentioned in each module (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. Nonconformity 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**

**The bidder must provide suitable array structure as per the type & suitability of the roof. The roof may be of any type like RCC (4 inch or more), Tin Shed (0.5 mm) or APP coated Roof.**

**In case of RCC roof,**

- 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(Minimum 80 microns)
- 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 baring 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.

**In case of tin shed aluminium rails/block segment to be used to mount Solar PV module.**

**In case rooftop with APP coating**

- a) Only Aluminium structure shall be used for mounting the modules/ panels/arrays.
- b) Each structure should have angle of inclination as per the site conditions to generate maximum power. However, to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.
- c) 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)
- 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).
- e) 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.
- f) 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
- g) Regarding civil structures the bidder need to take care of the load baring capacity of the roof and arrange suitable structures based on the quality of roof.
- h) The total load of the structure (when installed with PV modules) on the terrace should be less than  $60 \text{ kg/m}^2$ .

## 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 earthing. 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. Wherever it is necessary to disconnect the array a manual disconnect switch should also be there.

**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.
- c) The array capacity or inverter capacity whichever is minimum consider for payment as well as installed capacity.

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 houses 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%
THD	<3%
PF	>0.9

- a) Three phase PCU/ inverter shall be used with each power plant system.
- b) PCU/inverter shall be capable of complete automatic operation including wake-up synchronization & shutdown.
- c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
- d) Built-in meter and data logger to monitor plant performance through external computer shall be provided. 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. 4 Pole isolation switch of inverter output with respect to the grid need to be provided.

## 22. **DATA ACQUISITION SYSTEM / PLANT MONITORING**

- i. Data Acquisition System /RMS shall be provided district wise for the commissioned GCRT SPPs.
- ii. Data Logging Provision for plant control and monitoring, time, and date stamped system data logs for analysis with the high quality, suitable. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- iii. Solar Irradiance: An integrating Pyranometer / Solar cell-based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
- iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system
- v. The following parameters are accessible via the operating interface display in real time separately for solar power plant:
  - a. AC Voltage.
  - b. AC Output current.
  - c. Output Power
  - d. Power factor.
  - e. DC Input Voltage.
  - f. DC Input Current.
  - g. Time Active.
  - h. Time disabled.
  - i. Time Idle.
  - j. Power produced.
  - k. Protective function limits (Viz-AC Over voltage, AC Under voltage, over frequency, under frequency ground fault, PV starting voltage, PV stopping voltage).
- vi. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and 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.
- xviii. For the purpose of monitoring of Plant data remotely, all bidders are requiring furnishing Laptops as per minimum technical specification mentioned below:
  - Laptop 15.6 Inch Screen, Core I7 processor
  - 10th Generation FHD Laptop
  - 12 GB RAM, 2 TB HDD/ Genuine Windows 10 / Integrated Graphics card
  - Laptop Bag
  - Mouse (Wi-Fi) + Mouse Pad
  - Colour (Wi-Fi) Laser Printer with Scanner
  - 64 GB Pen-drive-2 nos.
  - Warranty & Insurance- To be extended upto 5 Years.

The above PC/System must be maintained for the entire contract period.

**NOTE:** BREDA is in the process of integration of project management system of all the Renewable Energy projects and agency shall provide necessary support with the selected Project Management System vendor to ensure compatibility and uninterrupted Remote Monitoring features availability as per this EoI. The agency shall share the RMS data in the defined API format of the Project Management System vendor for integration.

## 24. PROTECTIONS

The system should be provided with all necessary protections like earthing, Lightning, fire extinguishers, fire buckets, danger boards as necessary 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 standards and impulse current testing.

#### 25.2. **EARTHING PROTECTION**

- i. Each array structure of the PV yard should be grounded/ earthed properly as per latest 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.

#### 25.3. **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 BS EN 50618
- 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 %.
- xiii. Only copper cables shall be permitted to use inside the project both AC and DC side before upto LT panel of the building premises.

**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.

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

- i. The agency shall supply, necessary Tools and Tackles for the monitoring and performance check of the Solar power plant i.e., earth resistance tester, clamp meter, Wireless monitoring kit, etc.
- ii. The agency shall maintain requisite spares 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, which shall be supplied along with the equipment. Agency shall maintain spares for the entire period of warranty and Comprehensive Maintenance Contract which upon its use shall be replenished.
- iii. Agency shall supply and maintain district-wise kits of all the tools and tackles for the monitoring and performance check of the Solar power plant/ equipment's i.e. 1. Clamp Meter (compatible for 1000V DC able to measure Direct Current) 2. Multimeter 3. Megger 4. Vernier Calliper, 5. Measuring Tape 6. Thermography Camera 7. Elcometer 8. Earth Resistance Meter 9. Continuity Tester 10. Weighing Machine 11. Torque Wrench and any test equipment /tools & tackles as required.
- iv. The agency shall have to maintain at least 5% spare parts of the installed components at service centre district-wise to ensure immediate rectification of any faults.

**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 firefighting 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 empanelled chartered engineer) 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. 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. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any.
- ii. Approved ISI and reputed makes as per latest prevailing MNRE technical specifications for equipment will be used,

**32 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
- viii. Financial model/ cost analysis

**33. Detailed Project Report (DPR)** must be submitted as per attached format in hard and soft copy both.

**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	
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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/ IS 16169/	Utility-interconnected Photovoltaic Inverters - Test Procedure of

UL 1741/ IEEE 1547 (as applicable)	Islanding Prevention Measures
IEC 60255-27	Measuring relays and protection equipment – Part 27: Product safety requirements
IEC 60068-2 (1, 2, 14, 27, 30)	Environmental Testing of PV System – Power Conditioners and Inverters a) IEC 60068-2-1: Environmental testing - Part 2-1: Tests - Test A: Cold b) IEC 60068-2-2: Environmental testing - Part 2-2: Tests - Test B: Dry heat c) IEC 60068-2-14: Environmental testing - Part 2-14: Tests - Test N: Change of temperature d) IEC 60068-2-27: Environmental testing - Part 2- 27: Tests - Test Ea and guidance: Shock e) IEC 60068-2-30: Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)
IEC 61000 – 2,3,5 (as applicable)	Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) testing of PV Inverters
Fuses	
IS/IEC 60947 (Part 1, 2 & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers (AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control- gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch- disconnectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Surge Arrestors	
IEC 62305-4	Lightning Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
Cables	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part 1 & 2) / IEC69947	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly

	for DC Cables
Earthing /Lightning	
IEC 62561 Series (Chemical earthing)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrode IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Solar PV Roof Mounting Structure	
IS 2062/IS 4759/ IS 875	Material for the structure mounting
Ballast (Dead weight)	Fly ash bricks with stone dust and 53 grade OPC cement. Minimum Density 1700 – 1850 Kg/ m <sup>3</sup> , Minimum compressive strength 90 – 100 Kg / cm <sup>2</sup> . Test certificates from lab or Academic Institutions has to be submitted.

**Note: The test certificate should be valid and have been issued on or after 1<sup>st</sup> April 2020.**

**SECTION -IV**  
**FORMATS FOR SUBMITTING EOI**

Check List

Sl. 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	General Particulars of the bidder	Format 2		
4	Project Completion Schedule	Format 3		
5	Earnest Money Deposit (EMD)	Format 4		
6	Format of CPG	Format 5		
7	Format of Checklist for Bank Guarantee	Format 6		
8	Letter of Authorization/ Power of Attorney	Format 7		
9	Financial Eligibility Criteria Requirement	Format 8		
10	Shareholding Certificate	Format A		
11	Bidding Capacity Sheet	Format B		
12	Current Contract Commitments / Work in Progress.	Format 9		
13	Bidder(s) should not have been blacklisted / Debarred by any Government Department, Organization, Agency, Authority, or any Public Sector Undertaking owned by the Government as on the date for Bid submission. <i>Undertaking to this effect on Rs. 1000/- Non- Judicial Stamp paper duly notarized shall be submitted by the bidder at the time of bid submission. Failing which the bid shall be liable to be rejected.</i>	Format 10		
14	DECLARATION ( <i>Required to be submitted by the Bidder on Original Letter Head of company</i> )	Format 11		
15	Format of Contract Agreement	Format 12		
16	Format of Detailed project report	Format 13		
17	Format of Site Feasibility Report.	Format 14		
18	Format of Material Inspection Report.	Format 15		
19	Format of Work Completion Report.	Format 16		
20	Format of Project Completion Report.	Format 17		
21	Format of Comprehensive Maintenance Report.	Format 18		
22	Format of project Tracking	Format 19		
23	Format of Approval of Manufacturer/ Vendor of Module and Inverter	Format 20		
24	Format of Approval of Manufacturer/ Vendor of Type-B material	Format 21		
25	Format of Commissioning Report	Format 22		
26	Format of GCRT SPP Installation Report	Format 23		
27	Format of Rates for CMC from 6 <sup>th</sup> year to 10 <sup>th</sup> year	Format 24		



28	Format of Joint Deed of Undertaking by the Joint Venture Partners	Format 25		
<b>B. Documents to be attached with the Bid as Annexures in the same order as mentioned below</b>				
1	Business Profile of Bidder Company (Not more than one page of A4 size)	Annexure 1		
2	Certificate of Incorporation / Registration of Bidder Company	Annexure 2		
3	Attested copies of the valid Registration Certificates of GST, PAN, and all other applicable tax etc.	Annexure 3		
4	Signed and stamped copy of the Bidding Document including amendments/ clarifications, if any, issued by the BREDA.	Annexure 4		
5	MOA / AOA of companies	Annexure 5		
6	Required Experience certificates to meet the Minimum Eligibility Criteria Sl. No.3 ( <i>Experience certificate issued from SNA/ Gov. Organization/ SECI/ DISCOM</i> )	Annexure 6		
7	Statement of existing commitments and ongoing Govt. /PSU /MNC works along with supporting experience certificates	Annexure 7		
8	Declaration of testing equipment (As per MNRE Norms)	Annexure 8		
9	Minimum Average Annual Turnover (MAAT) of Rs. 15 Crore in the last 03 financial years (i.e. 2020-21, 2021-22 & 2022-23 or as applicable). <i>Audited Financial Statement for the last 3 years to this effect</i>	Annexure 9		
10	Income Tax Return (ITR) for the last 03 financial year (i.e. 2020-21, 2021-22 & 2022-23 or as applicable).	Annexure 10		
11	Board Resolution for Authorised Signatory	Annexure 11		

**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  
2nd Floor, “Vidhyut Bhawan” Building No- II,  
Baily Road, Patna- 800021, Bihar

**Sub: Bid for “Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar”.**

Dear Sir,

We, the undersigned.....[insert name of the ‘Bidder’] having read, examined and understood in detail the EOI Document for **Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings 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 EOI.

1. We give our unconditional acceptance to the EOI, dated.....and EOI Documents attached thereto, issued by BREDA, as amended. This shall also be construed as a token of our acceptance to the EOI 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 EOI Documents as per the provisions of the EOI and all provisions of such EOI Documents shall be binding on us.

**2. EMD**

We have enclosed an 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 EOI. The offered cumulative capacity by

us is.....MWp. (Insert total capacity offered).

**3. Processing Fee**

We have enclosed DD of Rs..... {Insert Amount as per bid information of this EOI}, 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).

- 4. We have submitted our Price Bid strictly as per Section IV of this EOI, without any deviations, conditions and without mentioning any assumptions or notes for the Price Bid in the said format(s).
- 5. 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.

**6. 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 EOI 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.

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

- 8. 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 EOI for your consideration.

It is confirmed that our Bid is consistent with all the requirements of submission as stated in the EOI and subsequent communications from BREDA. The information submitted in our Bid is complete, strictly as per the requirements stipulated in the EOI 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, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings 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, LLP Act 2008, Joint Venture. <i>(A copy of certificate of incorporation shall be furnished along with the bid in support of above).</i>	
7	Name of Director(s) of Company (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 No.	
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	Minimum Average Annual Turn Over of the bidder as computed during last 3 financial year.	
13	The bidder has positive net worth in the latest Financial Year. (Yes/No)	
14	Experience of the bidder in terms of capacity installed in MW (verified by any Govt. department/ organization)	
15	Name of the any close/near relative working in New & Renewable Energy Department, Bihar or BREDA	Name Designation Place of Posting Relationship
16	Reference of any document information attached by the Bidder other than specified in the RFS.	

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

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

<b>S.No.</b>	<b>Milestones Activities</b>	<b>Commencement /Completion (in months from Zero Date)</b>
2.	Manufacturer Approval for Type-A & Type-B Material	
	Establishment of Warehouse in Bihar	
3.	Pre-Dispatch Inspection (PDI) or inspection for Supplied Type-A & Type-B Material	
6.	Inspection at Warehouse in Bihar	
	Establishment of District Service Centre	
7.	Installation and Commissioning (I&C)	
8.	Inspection of I&C	

Seal of Bidder Company

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

Date \_\_\_\_\_

**FORMAT OF THE UNCONDITIONAL AND IRREVOCABLE BANK GUARANTEE FOR EMD**

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign entities submitting Bids are required to follow the applicable law in their country.)

In consideration of the ..... (Insert name of the Bidder) submitting the Bid *inter alia* for Response to Empanelment of Agencies for “Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar” in response to the EoI dated ..... [Insert date of EoI] issued by BREDA, (hereinafter referred to

as **BREDA / Procurer(s)**) and such BREDA / Procurer(s) agreeing to consider the Bid of .....[Insert the name of the Bidder] as per the terms of the EoI, the (Insert name and address of the bank issuing the EMD and address of the head office) (here in after referred to as “Guarantor Bank”) hereby agrees unequivocally, irrevocably and unconditionally to pay to BREDA / Procurer(s) or its authorized representative at Bihar Renewable Energy Development Agency, 2nd Floor, Vidyut Bhawan, Building No.2, Bailey Road, Patna – 800021. Bihar, India, forthwith on demand in writing from BREDA / Procurer(s) or any representative authorized by it in this behalf an amount for **Rupees 1,00,00,000/-** only, valid for the period of twelve months from the date of opening of Technical Bid, on behalf of M/s..... [Insert name of the Bidder].

This guarantee shall be valid and binding on the Guarantor Bank up to and including (Insert date of validity of EMD in accordance) and shall not be terminable by notice or any change in the constitution of the Guarantor Bank 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 concerned parties.

Our liability under this Guarantee is restricted against the cumulative quoted capacity of \_\_\_\_MW to Rupees ..... (Rs.....) only. Our Guarantee shall remain in force until ..... [Date to be inserted by BREDA ) Twelve Months from the Date of opening of Technical Bid] or its authorized representative shall be entitled to invoke this Guarantee until.....[Insert Date, Twelve Months from the Date of opening of Technical Bid].

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from BREDA / Procurer(s) or its authorized representative, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to BREDA / Procurer(s) or its authorized representative.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection, disputes, or disparities raised by the Bidder or any other person. The Guarantor Bank shall not require BREDA / Procurer(s) or its authorized representative to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against BREDA / Procurer(s) or its authorized representative in respect of any payment made hereunder.

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

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

This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring, liquidation, winding up, dissolution 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 / Procurer(s) or its authorized representative shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Bidder, to make any claim against or any demand on the Bidder or to give any notice to the Bidder to enforce any security held by BREDA / Procurer(s) or its authorized representative or to exercise, levy or enforce any distress, diligence or other process against the Bidder.

The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to the BREDA / Procurer(s) and may be assigned, in whole or in part, (whether absolutely or by way of security) by the BREDA / Procurer(s) to any entity to whom it is entitled to assign its rights and obligations under the EoI Documents.

The Guarantor Bank hereby agrees and acknowledges that BREDA / Procurer(s) shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs..... (Rs..... only) and it shall remain in force until..... [Date to be inserted Twelve Months from the date of opening of Technical Bid], . We are liable to pay the guaranteed amount or any part thereof under this BANK GUARANTEE only if BREDA / Procurer(s) or its authorized representative serves upon us a written claim or demand.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this ..... day of ..... at .....

**Witness:**

1 Signature  
Name and address.  
2 Signature  
Name and address

**Signature**

Name:  
Designation with Bank Stamp

Attorney as per power of attorney No. ....

For:

..... [Insert Name of the Bank]

**Stamp and Full Address:**

Dated this ..... day of ..... 20.....

Note: The Stamp Paper should be in the name of the Executing Bank.

**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 EOI inter alia for selection of the Project for the capacity of ..... MW under Roof Top scheme in response to the EOI No \_\_\_\_\_

dated..... issued by BREDA (hereinafter referred to as BREDA) and BREDA considering such response to the EOI 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 Letter of Intent No ----- to----- (insert the name of the Successful Bidder(SB)) as per terms of EOI 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 EOI, the \_\_\_\_\_ [insert name & address of bank] hereby agrees unequivocally, irrevocably and unconditionally to pay to **BREDA at 2<sup>nd</sup> Floor, "Vidhyut Bhawan" Building No- II, Baily Road, Patna – 800021. 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.
3. While issuing BG applicant must mention receiver's details as ICICI Bank, IFSC- ICIC0003342, Branch- Patna Bypass, Suman Plaza near Shivam Convent School, Patna at which SFMS IFN 760 message shall be sent by issuing bank through SFMS to establish the authenticity of issued BG

**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 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**

**(Undertaking to be on INR 1000/- non-judicial stamp paper duly notarized.)**

**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 EOI. 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 EOI.

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 EOI.

**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:**

- a. 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).
  
- b. In the event, power of attorney has been executed outside India, the same needs to be duly notarized by a notary public of the jurisdiction where it is executed.
  
- c. Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favor 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 On the Letter Head of the Chartered Accountant Firm)**

To,

The Director  
 Bihar Renewable Energy Development Agency  
 2<sup>nd</sup> Floor, Vidyut Bhawan, Building No. II Baily Road,  
 Patna- 800021, Bihar

Sub: Bid for " **Empanelment of Agencies for "Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid-Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar".** in response to the EOI No: \_\_\_\_\_ dated: \_\_\_\_\_

Dear Sir,

**We certify that the Financially Evaluated Entity(ies) had a Minimum Average Annual Turnover (MAAT) as follows:**

Year	Amount in INR
2020-21	
2021-22	
2022-23	
Average Annual Turnover	

Minimum Average Annual Turnover (MAAT) of Rs. \_\_\_\_\_ Crore in the last 03 financial years (i.e. 2020-21, 2021-22 & 2022-23).

**We certify that the Financially Evaluated Entity (ies) had a Net Worth as follows:**

**Net Worth at the close of Preceding (i.e. 2022-23) Financial Year**

2022-23	
---------	--

**We certify that the Financially Evaluated Entity (ies) has a access to availability of line of Credit as follows:**

liquid assets (LA) and/ or evidence of access to or availability of credit facilities	: Rs. ----- Crore
---	-------------------

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

Name of the Chartered Accountant Firm \_\_\_\_\_

Name of the Chartered Accountant \_\_\_\_\_

Designation \_\_\_\_\_

Registration Number of CA Firm \_\_\_\_\_

Membership Number \_\_\_\_\_

UDIN \_\_\_\_\_

Signature \_\_\_\_\_

Seal of Chartered Accountant \_\_\_\_\_

Date \_\_\_\_\_

**(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**

<b>Bihar Renewable Energy Development Agency</b>	
<b>Bidding Capacity Sheet</b>	
<b>NCB No.</b>	BREDA/TENDER/SPV/GCRTPV/1kWp-500kWp/08/2023-24
<b>Name of Work</b>	Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plant of various capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar.
<b>Cost of Tender (Non-Refundable)</b>	INR 11800 /- (Inclusive GST 18%)
<b>EMD- Rs 1 Crore</b> (to be paid through (Internet Payment Gateway (IPG), Challan) or Bank Guarantee from any Nationalized/ Scheduled Commercial Bank).	
<b>Name of the Bidder</b>	
<b>Address of the Bidder</b>	
<b>Capacity to be quoted by the bidder</b>	<b>01 kWp to 500 kWp (In MWp)</b>
Minimum Capacity to be quoted by the bidder must be at least a <i>minimum of 10 MW</i> . If the quoted capacity by bidder is <i>less than 10 MW</i> , the bid will not be considered, and it will not be further evaluated.	

**NOTE: Quoting of capacities shall be Integers only.**

**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 BLACKLISTED**

**(On 1000/- Rs. Non- Judicial Stamp Paper)**

I, \_\_\_\_\_ Authorized Signatory of M/s \_\_\_\_\_ hereby give undertaking that we, as a company are not blacklisted/ debarred/ banned by any Central/ State Government/ Semi-Government Organization/ Public Sector Undertaking in India as on date of submission of bid.

Further, if the 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:

**Note: - In case of Joint Venture both the partners shall have to declare not being blacklisted/ debarred/ banned by any Central/ State Government/ Semi-Government Organization/ Public Sector Undertaking in India as on date of submission of bid. In this regard both the partners shall have to submit Format-10 separately.**



## **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 EOI 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 EOI/ 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 EOI.
3. We declare that we have not been Blacklisted 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 EOI 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

**Draft Contract Agreement**

Contract No. \_\_\_\_\_

**Dated: -**

This agreement is made and entered into \_\_\_\_\_ day of \_\_\_\_\_ month of year **2024** between **Bihar Renewable Energy Development Agency**, a state nodal agency registered under Societies Registration act 1860, having its office at 2<sup>nd</sup> Floor, “Vidyut Bhawan”, Building No. 2 Bailey Road, Patna 800001 (Bihar) (hereinafter referred to as Owner”, which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) of the ONE PART

And

\_\_\_\_\_ having its office at \_\_\_\_\_, (hereinafter referred to as the “Contractor” which expression shall, unless repugnant to the context or meaning thereof) include its successors, administrators and assigns) of the OTHER PART.

WHEREAS the Owner, desirous of associating with the Contractor for **Empanelment of Agencies for “Design, Supply, Erection, Testing & Commissioning including Warranty, Comprehensive Operation & Maintenance (Five Years) of Grid- Connected Rooftop Solar Power Plants of Various Capacity under CAPEX model for an estimated capacity of 200 MW at various Government Buildings in the State of Bihar”**. on EPC Basis (the Project) on the terms and conditions contained in the Bidding Documents and amendments of the clarifications in respect thereof issued by the Owner in response to Invitation for Bid (IFB): **EoI No: BREDA/TENDER/SPV/GCRTPV/01kWp-500kWp/08/2023-24**.

AND WHEREAS the Contractor had submitted its Bid for the said Project under **EoI No: BREDA/TENDER/SPV/GCRTPV/01kWp-500kWp/08/2023-24** Dated \_\_\_\_\_ and the clarification / confirmations given through all its subsequent communications (All put together are hereinafter referred to as the “Bid”).

NOW THEREFORE THIS AGREEMENT WITNESS AS UNDER:

**Article - 1.0 – Definition**

In this Agreement, the word and expression shall have the same meaning as are respectively assigned to them in the Contract Documents specified hereunder, attached herewith, which form an integral part of this Contract Agreement. This Agreement together with all the Documents attached therewith is referred to as the Contract for all intent and purpose of the aforesaid Project.

**Article - 2.0 - Date of Commencement of Contract**

This Contract has come into force with effect from \_\_\_\_\_ i.e. from the date of the signing of this contract agreement.

**Article - 3.0 - Contract Documents**

The Contract shall be performed strictly as per the terms & conditions stipulated herein and in the following documents attached hereto (hereinafter referred to as “Contract Documents”):

- I. The Contract Agreement between the Owner and the Contractor and the attachments there to (This Contract Agreement).
- II. Letter of Intent to the execution of Contract Agreement between the Owner and the Contractor (Appendix I).
- III. Corrigendum to the EoI including & clarifications issued by the Owner in response to queries raised by contractor (Appendix II).
- IV. TENDER DOCUMENTS (Appendix III)
- V. Designs and Drawings (Appendix IV)
- VI. Bid submitted by the Successful Bidder (Appendix V).

The above Contract Documents shall form an integral part of this agreement. If there is an ambiguity or discrepancy or conflict within the Contract Documents, the priority of the Documents shall be in the order in which the Contract Documents are listed above. All Documents forming part of the Contract Documents are intended to be corrective, complementary and mutually explanatory. The Contract shall be read as a whole.

The provisions relating to Arbitration and Jurisdiction are specified in clause no-3.30 of EoI Document. In case of any- conflict amongst Contract Documents, the decision of the Owner shall be final & binding on the Contractor.

**Article - 4.0 – Scope of Work**

The detailed scope of work of the Contractor, under the Contract has been brought out in the Contract Documents. However, the above scope of work of the Contractor shall also include such items of work as may not have been specifically brought out in the said Contract Documents but as may be necessary for the safe and successful completion of the various items of work envisaged as per good engineering practice and recognized principles. The approved contract price is for the entire scope of supply & services. TDS deduction, as applicable, would be levied by BREDA.

**Article - 5.0 – Contract Rate**

The Contract Rate under this Contract shall be the discovered L1 rates for the corresponding kWp capacities of the Grid Connected Roof Top Solar Power Plants ranging from 1 kWp to 500 kWp, for the total allotted capacity of \_\_\_\_\_ MWp which are as mentioned below:

Capacity of Grid Connected Roof Top Solar Power Plant	Electrical Connection Phase	Contract Rate in INR	Capacity of Grid Connected Roof Top Solar Power Plant	Electrical Connection Phase	Contract Rate in INR
1 kWp	Single		25 kWp	Three	
2 kWp	Single		30 kWp	Three	
3 kWp	Single		33 kWp	Three	
5 kWp	Single		35 kWp	Three	
6 kWp	Single		40 kWp	Three	
5 kWp	Three		50 kWp	Three	
6 kWp	Three		60 kWp	Three	
8 kWp	Three		70 kWp	Three	
10 kWp	Three		80 kWp	Three	
12 kWp	Three		100 kWp	Three	
15 kWp	Three		101 kWp to 500 kWp	Three	
20 kWp	Three				

The rates shall be inclusive of all taxes, duties, levies, fees, etc. The rate shall remain fixed and firm and shall not change on any account whatsoever, for the duration of the Contract. BREDA will not pay anything over and above this rate unless as otherwise specified. All the matters relating to the payments to the Contractor shall be as per the Terms & Conditions and subject to the requirements as specified in the said Conditions of Contract of tender no. - **EoI No: BREDA/TENDER/SPV/GCRTPV/01kWp-500kWp/08/2023-24**

**Article - 6.0 – Contract Schedule**

Time is the essence of Contract and shall be strictly adhered to. The Contractor shall so organize its resources and perform its work as to complete it within a period of 150days from the date of issuance of particular work order and as per the Projects Completion Schedule forming part of the Bid submitted by the Contractor subject to further modifications /changes as may be mutually agreed to between the BREDA and the Contractor.

This Contract is executed in English Language in two copies, each party receiving one set and both the sets are authentic.

IN WITNESS WHEREOF the Parties through their duly authorized representatives have signed this agreement on the day, month and year mentioned herein of before.

**Witness-1**

\_\_\_\_\_  
**(Bihar Renewable Energy Development Agency)**

\_\_\_\_\_  
**(Authorised Person Name)**

\_\_\_\_\_  
**(Company Seal)**

**Witness-2**

\_\_\_\_\_  
**(Contractor)**

\_\_\_\_\_  
**(Authorised Person Name)**

\_\_\_\_\_  
**(Company Seal)**

**Detailed Project Report****Grid Connected Rooftop Solar Power Plant**

1. Project Site Layout with details i.e. contacts person name and designation with mobile no.
2. Rooftop Solar Power Generation System description i.e. How much capacity can be installed according to sanctioned load of the building and shadow free area availability(Enclosed Shadow analysis report), Latitude-Longitude and radiation data
3. CA no. and Meter Type (1 phase/3 phase/LTCT/HTCT etc.) as per DISCOMS PREVAILING GUIDELINES
4. Actual connected load of the building
5. Sanction load of the building
6. Shadow free area available for installation of system
7. System Description and Specifications of the Components
  - (a) Solar PV module
  - (b) Grid connected inverter
  - (c) Module mounting structure
  - (d) Array Junction Box
  - (e) DC/AC Distribution Board
  - (f) Surge protection devices, Isolators, Circuit Breakers etc.
  - (g) Cable (All type) & Connectors
  - (h) Earthing Kit (maintenance free)
  - (i) Lightning Arrester
  - (j) Installation Kit
  - (k) Bi-directional Net Meters/Solar Meter
  - (l) Remote Monitoring System
  - (m) Batteries (if applicable)
  - (n) Modem (if applicable)
  - (o) DG Synchronization Unit (if applicable)
  - (p) Any other component which is leftover but required will be provided as per tender terms and conditions
8. Make of material/ system (no. /quantities) with Make(For above components) and unit cost of each material including NET meter cost
9. Calculation for unit cost of power generation
10. Environmental benefits
11. Cost benefit analysis, payback period
12. Expected output
13. Respective G.A. drawings for MMS foundation details, layout, connection, components etc.
14. Connectivity details with grid and Bidirectional metering arrangement and solar meter (with Single line diagram)
15. Single Line diagram as per actual site conditions and capacity with earthing and lightning arrestor arrangement
16. PV Syst report(Mandatory) and STADD Pro analysis report or any other
17. Operation and maintenance philosophy and schedule
18. Any other information as required

<b>Site Feasibility Report</b>		
<b>General Information:</b>		
	<b>Content</b>	<b>REMARKS</b>
1	Name of Site:	
2	Site Address(details):	
3	Nearest Landmark:	
4	Name of Current Contact Person	
5	Contact No:	
6	Proposed capacity as per given work order(kWp)	
<b>Technical Information</b>		
1	Latitude	
2	Longitude	
3	Type of Load AC/DC	
4	Connection (1 Phase or 3 Phase)	
5	Meter Connection Type (HT/LT)	
6	CA No.	
7	Meter No. & Meter Type (Smart/ Normal)	
8	Sanction Load (KW/KVA)	
9	Instantaneous/Connected Load (KW)	
10	Grid availability (Yes/No)	
11	Is all three-phase available in LTDB (Yes/No)	
12	If phase is missing, name i.e., R, Y, B, N	
13	LTDB (Present/Not Present)	
14	Existing DG Set & specify capacity, make & model no. of each DG set individually (in KVA)	
15	Roof Condition of solar power plant installation	
16	Total Area of Roof (in Sq.mm)	
17	Free space for solar Installation (in Sq.mm)	
18	Free space for Control Room/Inverter (in Sq.mm)	
19	Earth pit position (Ok/Not Ok)	
<b>Civil / structural</b>		
1	Age of Building	
2	Access to the roof	
3	Rooftop Height (Meter)	
4	Parapet Height (meter)	
5	No. of floors (G+...)	
6	Water Source for Cleaning	
<b>Other Information :</b>		
1	Access to Site	
2	Distance of site from main Road (km)	



<b>MATERIAL INSPECTION REPORT FOR GRID CONNECTED ROOFTOP SOLAR POWER PLANT</b>			
Name of the Site:			
Place of Inspection:			
Name of the firm:			
Date of Inspection:			
Work order capacity of system in kWp:			
Supplied capacity of PV Modules in kWp:			
Supplied capacity of Grid Tied Inverter in kW:			
<b>S No</b>	<b>Component</b>	<b>Details</b>	<b>Supplied /Not Supplied</b>
<b>1</b>	<b>Specification of the Modules</b>		
a.	Make		
b.	Model		
c.	Type of cell (mono or better)		
d.	Year of manufacturing		
e.	PV Module wattage		
f.	No. of PV Modules		
g.	Total capacity in kWp		
h.	Serial number		
i.	Power Tolerance in Wp		
j.	Imported or indigenous		
k.	Certificate		
<b>2</b>	<b>Specification of Grid Tied Inverter</b>		
a.	Make		
b.	Model		
c.	Capacity of inverter		
d.	AC Output (1 $\phi$ or 3 $\phi$ with voltage)		
e.	Display availability		
f.	No. of MPPT		
g.	Voltage MPPT range in volt		
h.	Current MPPT range in Amp		
i.	Inverter maximum output current rating		
j.	Serial number		

k.	Indigenous or imported		
l.	Certificate		
<b>3</b>	<b>DC Distribution Box (DCDB)</b>		
a.	Box make		
b.	No. of SPDs with make		
c.	No. of Fuses with rating & make		
d.	No. of MCBs with rating & make		
e.	Enclosure details (PVC or Metallic)		
f.	Certificates (Box IP65 or above)		
<b>4</b>	<b>AC Distribution Box (ACDB)</b>		
a.	Box make		
b.	No. SPDs with make		
c.	No. of MCBs with make		
d.	Rating of MCBs		
e.	Enclosure details (PVC or Metallic)		
f.	Certificate (Box IP65 or above)		
<b>5</b>	<b>Module Mounting Structure (MMS)</b>		
a.	Structure type (Fixed type or Tracking)		
b	If tracking system then:		
b.1.	Auto tracking or Manual Tracking		
b.2.	Single Axis or Dual Axis Tracker		
c.	Material type (HDGI or Aluminium)		
d.	300 mm minimum ground clearance for flat rooftop		
e.	Indigenous or imported		
f.	Certificate (from NABL accredited lab, HDGI 80-micron coating thickness)		
<b>6</b>	<b>Cable (DC)</b>		
a.	Make		
b.	Type of cable (Flexible or armoured cable)		
c.	Cable conductor type (Copper)		
d.	Size & length		
e.	Voltage rating of cable		
f.	Certificate		
<b>6</b>	<b>Cable (AC)</b>		

a.	Make		
b.	Type of cable (Flexible or Armoured)		
c.	Cable conductor type (Copper)		
d.	Size & length		
e.	Voltage rating of cable		
f.	Certificate		
7	Earthing and protections		
a.	Lightening Arrester make		
b.	Quantity in nos.		
c.	Lightning Arrester type (Solid rod)		
d.	Size of Lightning Arrester (Diameter & length) in mm		
e.	Material type of Lightning Arrester		
f.	Type of earthing conductor		
g.	Earthing Conductor make		
h.	Quantity		
i.	Size of earthing conductor (Diameter & length) in mm		
j.	Material type of Earthing Rod		
k.	Earthing strip size		
l.	Earthing cables size		
m.	Certificates		
8	Monitoring Mechanism for the system		
a.	Make		
b.	Type		
9	Fire extinguisher & sand bucket		
a.	Make		
b.	Type		
10	Weather Monitoring System (For above 50 kWp)		

a.	Pyranometer		
b.	Anemometer		
c.	Temperature sensor		
11	Net Metering		
a.	Bidirectional Meter make & type (Direct/LTCT/HT) with quantity		
b.	Solar Meter make & type (Direct/LTCT/HT) with quantity		
c.	Check meter (For above 20 kWp Solar Power Plant) make & type (Direct/LTCT/HT) with quantity		
d.	Meter Box		
e.	Modem (applicable for LTCT & HT)		
12	Miscellaneous		
a.	Cable tie - check for UV protection, Colour of cable tie		
b.	Ferrules availability		
c.	Cable tray type (if using)		
d.	Conduit pipe- with make & Type (if using)		
e.	Anti-theft nut Bolt (SS 304) for PV Module mounting		
f.	SS type nut bolt for MMS mounting (SS 304)		
Remarks if any: -			

**Note- Time and location stamped Photographs captured during inspection of material shall be submitted along with this report. Photographs of the Name-plates of modules, inverters, cables, earthing materials etc. as required by BREDA has to be submitted.**

**WORK COMPLETION REPORT FOR GRID CONNECTED SOLAR POWER PLANTS**

**A. Details of the Solar PV Module**

1.	Model No.	
2.	Name and address of manufacturer	
3.	Capacity of each module (Wp)	
4.	No. of modules	
5.	Total capacity (kWp)	
6.	Date of installation	
7.	Applicable standard (BIS/IEC)	

**B. Details of the Inverter**

1.	Name and address of the inverter manufacturer	
2.	Brand Name of the inverter	
3.	Model No.	
4.	AC capacity of individual inverter (kW)	
5.	No. of inverters installed	
6.	Total AC capacity of inverter (kW)	
7.	Serial Nos.	
8.	Date of Installation	
9.	Applicable Standard (BIS/IEC)	
10.	Is anti-islanding protection provided?	Yes/No

**C. Module Mounting Structure**

1.	Does the module mounting structure withstand wind capacity up to 150 kmph?	Yes/No
2.	Is total load of the structure +panel less than 60 kg/m <sup>2</sup> ?	Yes/No
3.	Applicable Standard (BIS/IEC)	

**D. Details of the Cables: DC**

1.	Make/Name of manufacturer	
2.	Size and type	

3.	Applicable standard (IEC)	
----	---------------------------	--

**E. Details of the AC Wiring**

1.	Make/Name of manufacturer	
2.	Size and type	
3.	Applicable standard (IEC)	

**F. Details of the DC Distribution Box**

1.	Make/Name of manufacturer	
2.	Sl. No.	
3.	High quality suitable capacity MOVs/SPDs along with suitable reverse blocking diodes	
4.	MCB/Isolator quantity and capacity	
5.	Size and type	
6.	Applicable standard (IEC)	

**G. Details of the AC Distribution Box**

1.	Make/Name of manufacturer	
2.	Sl. No.	
3.	AC surge protection device	
4.	MCB/MCCB quantity and capacity	
5.	Size and type	
6.	Applicable standard (IEC)	

**H. Details of the Earthing**

1.	Earth resistance (shall be less than 5 ohms)	
2.	Size of the earth wire/flat*	
3.	Three separate earthing points	
	Modules, mounting structure and DC surge protection device	Yes/No
	Inverter, AC surge protection device	Yes/No
	Lightening arrester	Yes/No
4.	Size and type	

5.	Applicable standard (BIS/IEC)	
----	-------------------------------	--

**I. Details of the Net Meter Details, If Purchased by Consumer (Please Enclose the Test Report of the Net Meter Tested at the Laboratory of the DISCOM/Designated Agency)**

1.	Make	
2.	Serial No.	
3.	Procured from DISCOM/outside agency	
4.	Manufacturer's Name	
5.	Capacity	
6.	Type/Model	
7.	Single ph./three ph.	
8.	Rated current and CT ratio	
9.	Reference voltage and PT ratio	
10.	Date of test by MT, DISCOM	
11.	Applicable standard (BIS/IEC)	
12.	Month and year of manufacture	
13.	Class of meter	

**J. Details of the Caution Signage**

**K. Provision of Manual and Automatic Switches: Yes/ No**

**L. G.P.S. Co-ordinates of the RTSPV System Installation**

(i) Latitude: \_\_\_\_\_ (ii) Longitude: \_\_\_\_\_

**M. Whether Operation and Maintenance Manual Provided to the Consumer: Yes/ No**

**N. Capacity of Automatic Relay/Isolation Switch at Interconnection Point with Grid**

Certified that the above said RTSPV system was installed and the equipment used complies with the Technical and Safety Standards as specified by the MNRE/CEA/MERC/DISCOM under net metering program.

Signature of the Applicant

Name and Signature of the System Installer

Name and Address with Seal

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

Name of the firm and address:

\_\_\_\_\_

\_\_\_\_\_

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

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

**Enclosure:** Actual single line wiring diagram (SLD) of the SPV System

Format for Project Completion Report

Section-I: Company/Bidder Report

S. No.	Check	Response
1	Work order No & Date	
1.1	Installed by (Vendor)	
1.2	Connection Type (1-Phase/3-Phase)	
1.3	Capacity Installed	
1.4	GIS Coordinates of Plant	
1.5	Date of Installation without NET meter	
1.6	Date of Commissioning with NET meter	
1.7	Capacity of system installed (kWp)	
2	Modules	
2.1	Type of modules(multi/mono)	
2.2	Make of Modules and year of manufacturing	
2.3	Wattage and no. of modules	
2.4	Module Efficiency	
2.5	No. of series & Parallel combinations	
2.6	Tilt Angle of Modules	
2.7	IS & IEC certificate	
2.8	Date of issue	
2.9	Issuing Agency	
2.10	Certificate Validity	
2.11	RFID tag is pasted inside or outside	
2.12	Type of RFID	
3.	Power Conditioning Unit (PCU)	
3.1	Make, & rating Type of Charge controller/MPPT	
3.2	Capacity of inverter and year of manufacturing	
3.3	AC Output	



3.4	Enclose test certificate as per Tender requirement	
4	Remote Monitoring System	
4.1	Whether system equipped with Remote Monitoring System (RMS)?	
4.2	List the parameters captured by RMS	
4.3	Frequency of data capture	
5	Net Meter Type and nos.	
5.1	If Smart Meter is already installed then Net Meter Active Status	

### **Declaration**

It is to certify that all the components and materials including junction boxes, cables, distribution boards, RMS, Metering, WMS, Laptop, Switches, circuit breakers used are as per Tender requirement and as per DPR submitted. If any material is leftover in supplied material same will be provide as per tender terms and conditions.

(Signature and Stamp of Company/Bidder)

### **Section-II: Beneficiary Report**

S No	Component	Observation
1	Name of the customer	
2	Location Capacity (kWp)	
3	Whether training was provided by installer for operation and maintenance	
4	Whether the following documents were provided or not: I-V curves of all modules Inverter manual Warranty card for system	
5	Date of handing over of the system	
6	Date and Place	
7	Technical Person Trained to maintain system: Name with Mobile no.	

(Signature of Beneficiary)

### Section-III: Inspection Report

S No	Component	Observation
1	Site/ Location with Complete Address	
2	Capacity of system installed (kWp)	
3	Whether the system was installed in shadow free area or not? If not mention the details	
	Gap between rows of the modules	
	Any inter module shading exists or not	
	Whether the modules contain information about company name, serial no., and year manufacturing inside	
	RFID pasted inside or outside	
4	Inverter	
	Whether the information given in part A is same or found any deviation	
5	Structures	
6	Cables Make and size	
7	Distribution Box	
8	Earthing and protections	
9	Cumulative generation data at the date of visit or cumulative energy consumption data at the time of visit	
10	Net Metering Status	
11	User Feed Back	
12	Any specific problem	

(Signature of Beneficiary with Stamp and date)

(Signature of Inspecting Officer and date)

(Signature and Stamp of Company/Bidder)

#### List of enclosures:

1. Copy of invoice billed to user.
2. List of serial nos. of modules and batteries (if applicable) installed in the system.
3. Test certificates of the components.
4. Statement of Expenditure with component-wise cost break-up.
5. Utilization Certificate(s) of previous releases.
6. Original Color photographs.

Solar PV Power Plant CMC Status report			
Date:			
<b>(A) PARTICULARS</b>			
Name of the Client / User			
Place of installation (Village)			
Gram Panchayat.....			
Block			
District			
Date of visit			
Name & address of the staff (visiting the installation)			
<b>(B) OBSERVATIONS</b> (To be filled-in by the visiting staff to the installation)		<b>Previous month</b>	<b>Present month</b>
		<b>Remarks</b>	
Visual damage of all Components / Equipment / Items in PV Power Plant:			
Have you seen any? Pl. mention if any			
Damage of the module:			
Sl. No. & Make of the damaged module			
Cleaning status of PV Modules			
Looseness of PV Modules (Pl. mention, if any)..			
Tightness of Nuts, bolts, of Module Mounting Structures.			
Any cables found lying on the ground, or inside conductors of cables found exposed or in open.			
Tightening of the all-electrical connections			
Open Circuit voltages at AJB / MJB boxes (Matching with earlier commissioned time vales).			
Grounding / Earthing of all systems			
Staff Training (General, Technical, Maintenance, Safety) Records and cross questioning the trained staff..			
Verification of Daily Power Generation			
PLF/CUF			
PR			
Verification of Maintenance Records			
Verification of Repairing Records			
Checking of Spares and Consumables availability			
Solar Generation(kWh)			
Suggestions given to the user			
Status of the entire PV Power Plant system			
Remarks of the User			
Signature of the User			
Name.....			
Designation .....			
Date.....			
Representative Signature of the Visiting staff			
Name.....			
Designation .....			
Date.....			
Signature of the technician			
Name.....			
Designation .....			
Date.....			
Signature of the AE/JE			
Name.....			
Designation .....			
Date.....			

**Format of Project Tracking**

<b>Sl. No.</b>	<b>PARTICULARS</b>	
1	Name of District	
2	Name of Beneficiary	
3	Name of Building/Site	
4	CA No.	
5	Meter No.	
6	Sanctioned Load as per Electricity Bill	
7	Location	
8	Capacity Allocated	
9	Name of Executing Agency	
10	Work Order Number	
11	Date of Work Order	
12	Date of Installation as per WO	
13	Date of DPR submission	
14	Date of DPR approval	
15	Date of Intimation of Material Supply	
16	Date of Material Inspection	
17	Date of issue of DI	
18	Date of Installation as per WO	
19	Date of submission of all test reports	
20	Date of receipt of DI	
21	Date of Plant Installation call	
22	Actual Inspection of plant	
23	Net meter application submission	
24	Net meter application challan	
25	MRT submission (challan)	
26	MRT testing date	
27	Meter installation date	
28	Date of net metering	
29	Date of final commissioning	
30	Load Enhancement Status	
31	Outstanding Dues Status	

## Approval of Manufacturer/Vendor of Module and Inverter

1	<b>Name of the Manufacturer/Vendor:</b>				
a	<b>Full Address:</b>				
b	<b>Ph no/Mob No:</b>				
C	<b>E-mail:</b>				
2	<b>Name of Material to be supplied by this Manufacturer</b>				
3	<b>Details of Check list &amp; documents submitted along with request letter for Manufacturer/Vendor approval: -</b>				
<b>Sr no</b>	<b>Qualification Criteria for Manufacturer approval</b>		<b>Documents submitted Yes/No</b>	<b>Details of Documents &amp; their Validity</b>	<b>Remarks/Details of experience/Supply of items to central/state govt. Power utilities only/ Type test Certificate/Industry dept. Regd. Certificate</b>
A	The firm should be registered with the statutory body for manufacturing of items covered in the Bidding. /Contract Documents. (Copy of the Registration Certificate, Factory License, GST Certificate, to be enclosed)	Factory License			
		Registration Certificate			
		GST			
B	The firm should be in business for at least Two years and its annual manufacturing capacity should be at least Two times the ordered quantity. (Copies of the Documentary evidence to this effect to be furnished)				
C	The firm should have supplied similar equipment/ item for SPV projects under Central/State Govt. Department/ Agency/Authority in last Two years and which are in commercial operation for at least Two (2) years (Documentary evidence to be submitted)				
D	The firm should have Valid test certificates duly issued by NABL/BIS/MNRE accredited laboratories (as per relevant BIS/IS/IEC standards as mentioned in Section-III Technical Specification of EOI) for same rating.				
E	The firm should have testing laboratories equipped with all testing equipment/instruments along with calibration certificates from statutory/Regulatory body to carry out all the routine tests in house.				
F	The firm should have established Quality control lab/organization as per latest ISO: 9001 :2015 standard	ISO: 9001 :2015 Certificate			
		OHSAS Certificate (Desirable)			
G	Notarized Affidavit on Rs. 1000/- stamp paper regarding non-blacklisted and non-debarred by any State/Central Govt./Govt. Bodies in India.				

## **Checklist for Approval of Manufacturers/ Vendor for Solar Photovoltaic Modules**

S. No.	Document	Submission Status (Yes/No)
1	IS 14286: Crystalline silicon terrestrial photovoltaic (PV) modules — design qualification and type approval.	
2	IEC 61730-1: Photovoltaic Module safety qualification- Part 1: Requirements for construction	
3	IEC 61730-2: Photovoltaic Module safety qualification- Part 2: Requirements for testing	
4	IEC 61701: Salt mist corrosion testing of photovoltaic modules	
5	IEC 60904-1:2006 /IS 12762 (Part 1):2010 Photovoltaic devices - Measurement of photovoltaic current-voltage characteristics	
6	IEC 61853-Part 1/IS 16170: Part 1 PV module performance testing and energy rating: irradiance and temperature performance measurement and power rating	
7	RFID present	
8	PID (Potential Induced Degradation) free IEC 62804	
9	GST Registration	
10	Factory Licence	
11	Registration Certificate	
12	The firm should have Valid test certificates duly issued by NABL/ BIS/ MNRE accredited laboratories (as per relevant BIS/ IS/ IEC standards as mentioned in Section-III Technical Specification of EOI) for same rating	
13	ISO: 9001 :2015 Certificate	
14	OHSAS Certificate	
15	Notarized Affidavit on Rs. 1000/- stamp paper regarding non-blacklisted and non-debarred by any State/Central Govt./Govt. Bodies in India.	

**Checklist for Approval of Manufacturers/ Vendor for Single and Three Phase Grid  
connected Solar Inverters**

<b>S. No.</b>	<b>Document</b>	<b>Submission Status (Yes/No)</b>
1	IS 16169:2014/IEC 62116:2008: Test procedure of islanding prevention measure for utility-interconnected PV inverters	
2	Environmental test certificate IEC 60068-2-(1,2,14 & 30 )	
3	Electromagnetic compatibility (EMC) IEC 61000	
4	IS 16221-2:2015/IEC 62109-2:2011: Safety of Power Converters for Use in Photovoltaic Power Systems Part 2- Particular Requirements for Inverters	
5	Efficiency test certificate IEC 61683	
6	IEC 61727:2004 Photovoltaic (PV) systems - Characteristics of the utility interface	
7	GST Registration	
8	Factory Licence	
9	Registration Certificate	
10	The firm should have Valid test certificates duly issued by NABL/BIS/MNRE accredited laboratories (as per relevant BIS/IS/IEC standards as mentioned in Section-III Technical Specification of EOI) for same rating	
11	ISO: 9001 :2015 Certificate	
12	OHSAS Certificate	
13	Notarized Affidavit on Rs. 1000/- stamp paper regarding non-blacklisted and non-debarred by any State/Central Govt./Govt. Bodies in India.	

Format for approval of Manufacturer/Vendor of Type-B Material					
1	<b>Name of the Manufacturer/Vendor:</b>				
a	<b>Full Address:</b>				
b	<b>Ph no/Mob No:</b>				
c	<b>E-mail:</b>				
2	<b>Name of Material to be supplied by this Manufacturer</b>				
3	<b>Details of Check list &amp; documents submitted along with request letter for Manufacturer/Vendor approval:-</b>				
<b>Sr no</b>	<b>Qualification Criteria for Manufacturer approval</b>		<b>Documents submitted Yes/No</b>	<b>Details of Documents &amp; their Validity</b>	<b>Remarks/Details of experience/ Supply of items to central/state govt. Power utilities only. /Type test Certificate/Industry dept. Regd. Certificate</b>
<b>a</b>	The firm should be registered with the statutory body for manufacturing of items covered in the Bidding. / Contract Documents. (Copy of the Registration Certificate, Factory License, GST Certificate, to be enclosed)	Factory License Registration Certificate GST			
<b>B</b>	The firm should be in business for at least Two years and its annual manufacturing capacity should be at least Two times the ordered quantity. (Copies of the Documentary evidence to this effect to be furnished)				
<b>C</b>	The firm should have supplied similar equipment's/item for SPV projects under Central/State Govt. Department/ Agency/Authority in last Two years and which are in commercial operation for at least Two (2) years (Documentary evidence to be submitted)				



<b>D</b>	The firm should have Valid test certificates duly issued by NABL/BIS/MNRE accredited laboratories (as per relevant BIS/IS/IEC standards as mentioned in Section-III Technical Specification of EOD) for same rating .				
<b>E</b>	The firm should have testing laboratories equipped with all testing equipment's/instruments along with calibration certificates from statutory/Regulatory body to carry out all the routine tests in house.				
<b>F</b>	The firm should have established Quality control lab/organization as per latest ISO: 9001 :2015 standard	ISO: 9001 :2015 Certificate OHSAS Certificate (Desirable)			
<b>G</b>	Notarized Affidavit on Rs. 1000/- stamp paper regarding non-blacklisted and non-debarred by any State/Central Govt./Govt. Bodies in India.				

**COMMISSIONING REPORT (PROVISIONAL) FOR GRID CONNECTED SOLAR  
PHOTOVOLTAIC POWER PLANT (with Net-metering facility)**

Certified that a Grid Connected SPV Power Plant of .... KWp capacity has been installed at the site ..... district ..... of ..... which has been installed by M/S ..... on ..... The system is as per BIS/ MNRE specifications. The system has been checked for its performance on .....with / without installation of bi-directional meter and it is working satisfactorily. The system is suitable for installation of bi-directional and gross energy meters.

Signature of the beneficiary

Signature of the rep. of Agency  
With name, seal and date

Signature of the P.E./APE  
With name, date and seal

**GCRT Solar Power Plant Inspection Report**

Solar Rooftop Power Plant Capacity:Name of agency:

Name of user with address:

Contact number of user representative:

Sl. No.	Description	Comments	Remarks if any
1	PV Module Make		
2	Shadow on any PV Module		
3	No. of PV Modules		
4	Wattage (Peak) Per Module with total capacity		
5	PV Module slope in degree		
6	PV Modules and structure alignment		
7	No. of string		
8	No. of PV Modules in each string		
9	Structure type		
10	Check whether structures are corrosion free		
11	Solar Inverter make & Serial numbers		
12	Capacity of each Solar Inverter		
13	Civil foundation		
14	Fastner Nut bolt (SS) & Anti-theft nut bolt		
15	Array Junction Box details with switchgear make		
16	LA installation		
17	Cable dressing (DC & AC)		
18	Energy Meter installation		
19	Energy Meter reading		
20	Earth kit installation		
21	Earthing connection with each equipment (Structure, PV Module, Inverter, DCDB, ACDB, LA etc.)		
22	Fire extinguisher with sand bucket		
23	Weather monitoring station		
24	Remote monitoring system		
25	Energy Meter installation with modem & box		
26	Energy Meter reading		
27	Whether User is satisfied or not		
Comments if any:			

Agency

Technician, BREDA

APE,PMU,BREDA

PE,PMU,BREDA

User

**Format of Rates (Per kWp) for Comprehensive Maintenance  
Contract from 6<sup>th</sup> Year to 10<sup>th</sup> Year**

<b>Capacity of Grid Connected Solar Power Plant</b>	<b>Electrical Connection Phase</b>	<b>CMC Rate for 6<sup>th</sup> Year</b>	<b>CMC Rate for 7<sup>th</sup> Year</b>	<b>CMC Rate for 8<sup>th</sup> Year</b>	<b>CMC Rate for 9<sup>th</sup> Year</b>	<b>CMC Rate for 10<sup>th</sup> Year</b>
1 kWp	Single					
2 kWp	Single					
3 kWp	Single					
5 kWp	Single					
6 kWp	Single					
5 kWp	Three					
6 kWp	Three					
8 kWp	Three					
10 kWp	Three					
12 kWp	Three					
15 kWp	Three					
20 kWp	Three					
25 kWp	Three					
30 kWp	Three					
33 kWp	Three					
35 kWp	Three					
40 kWp	Three					
50 kWp	Three					
60 kWp	Three					
70 kWp	Three					
80 kWp	Three					
100 kWp	Three					
101 kWp to 500 kWp	Three					

**NOTE: The bidders shall have to submit the rate for doing CMC for the next 5 years i.e., from 6<sup>th</sup> year to 10<sup>th</sup> year as per this format. The decision to confer the work award after 5 years is at the discretion of BREDA. The rates so quoted shall be for reference purpose only and not be an evaluation criterion for this EoI.**

**Format of Joint Deed of Undertaking by the Joint Venture (JV) Partners**

*[To be on non-judicial stamp paper of INR 1000/- value as per Stamp Act relevant to place of execution.]*

THIS JOINT DEED OF UNDERTAKING executed on this..... day of..... Two Thousand and.....by .....a company incorporated under the laws of ..... and having its Registered Office at ..... (hereinafter called the "Party No.1" which expression shall include its successors, executors and permitted assigns) and M/s.....a company incorporated under the laws of ..... and having its Registered Office at ..... (hereinafter called the "Party No.2" which expression shall include its successors, executors and permitted assigns ) for the purpose of making a bid and entering into a contract [hereinafter called the "Contract" {in case of award}] against the Expression of Interest (Eoi) No..... for .....(insert name of the Eoi) of Bihar Renewable Development Agency (BREDA), registered under Societies Registration Act, 1860 having its registered office at Vidhyut Bhawan, Building No-2, 2nd Floor, Bailey Road, Patna-800001, Bihar. (hereinafter called the "Employer").

WHEREAS the Party No.1 and Party No.2 have entered into a Joint Venture (JV) Agreement dated.....

AND WHEREAS the Employer invited Eoi as per the above mentioned Eoi (*insert name of the Eoi*) as stipulated in the Bidding Documents.

AND WHEREAS as per Bid Information Sheet, Minimum Eligibility criterion, 1(iii) of the Eoi, inter-alia stipulates that a Joint Venture, as specified therein, may bid, provided, the Joint Venture and the partners of the Joint Ventures shall fulfil all the specified requirements of the Eoi and that , in such a case, the Bid shall be signed by all the partners so as to legally bind all the Partners of the Joint Venture, who will be jointly and severally liable to perform the Contract and all obligations hereunder.

AND WHEREAS the bid is being submitted to the Employer vide proposal No.....dated ..... by a nominated Representative of Party No. 1 & Party No. 2, who shall have the authority to conduct all business for and on behalf of all the partners of the JV during the Bidding process, in the event the JV is awarded the Contract, during contract execution ; under these presents and the bid in accordance with the requirements of Eoi has been signed with the provisions contained therein.

NOW THIS UNDERTAKING WITNESSETH AS UNDER:

In consideration of the above premises and agreements all the parties of this Deed of Undertaking do hereby declare and undertake:

1. In requirement of the award of the Contract by the Employer to the Joint Venture Partners, we, the Parties do hereby undertake that M/s..... , shall act as Authorized Representative of the Joint Venture, and further declare and confirm that we the parties to the Joint Venture shall jointly and severally be bound unto the Employer for the successful performance of the Contract and shall be fully responsible for the successful performance of the Contract in the event of award and performance of equipment in accordance with the Contract.
2. In case of any breach or default of the said Contract by any of the parties to the Joint Venture, the party(s) do hereby undertake to be fully responsible for the successful performance of the Contract and to carry out all the obligations and responsibilities under the Contract in accordance with the requirements of the Contract.

3. Further, if the Employer suffers any loss or damage on account of any breach in the Contract or any shortfall in the performance of the equipment in meeting the performances guaranteed as per the specification in terms of the Contract, the Party(s) of these presents undertake to promptly make good such loss or damages caused to the Employer, on its demand without any demur. It shall not be necessary or obligatory for the Employer to proceed against Lead Partner to these presents before proceeding against or dealing with the other Party(ies), the Employer can proceed against any of the parties who shall be jointly and severally liable for the performance and all other liabilities/obligations under the Contract to the Employer.
4. The financial liability of the Parties of this Deed of Undertaking to the Employer, with respect to any of the claims arising out of the performance or non-performance of the obligations set forth in this Deed of Undertaking, read in conjunction with the relevant conditions of the Contract shall, however, not be limited in any way so as to restrict or limit the liabilities or obligations of any of the Parties of this Deed of Undertaking.
5. It is expressly understood and agreed between the Parties to this Undertaking that the responsibilities and obligations of each of the Parties shall be as delineated in **Appendix – I** (to be suitably appended by the Parties along with this Undertaking in its bid) to this Deed of Undertaking. It is further undertaken by the parties that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the Parties under the Contract.
6. It is also understood that this Undertaking is provided for the purposes of undertaking joint and several liabilities of the partners to the Joint Venture for submission of the bid and performance of the Contract and that this Undertaking shall not be deemed to give rise to any additional liabilities or obligations, in any manner or any law, on any of the Parties to this Undertaking or on the Joint Venture, other than the express provisions of the Contract.
7. This Undertaking shall be construed and interpreted in accordance with the provisions of the Contract.
8. In case of an award of a Contract, we the parties to this Deed of Undertaking do hereby agree that we shall be jointly and severally responsible for furnishing a Contract Performance Guarantee from a bank in favor of the Employer.
9. It is further agreed that this Deed of Undertaking shall be irrevocable and shall form an integral part of the bid and shall continue to be enforceable till the Employer discharges the same or upon the completion of the Contract in accordance with its provisions, whichever is earlier. It shall be effective from the date first mentioned above for all purposes and intents.

IN WITNESS WHEREOF, the Parties to this Deed of Undertaking have through their authorized representatives executed these presents and affixed Common Seals of their companies, on the day, month and year first mentioned above.

Common Seal of .....	For Lead Partner (Party No.-1)
has been affixed in my/ our	For and on behalf of M/s
presence pursuant to Board of	.....
Director's Resolution dated .....	
Name .....	
Designation .....	
Signature .....	

<p>WITNESS :</p> <p>I. ....</p> <p>II. ....</p>	<p>(Signature of the authorized representative)</p>
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<p>Common Seal of ..... has been affixed in my/ our presence pursuant to Board of Director's Resolution dated .....</p> <p>Name ..... Designation ..... Signature .....</p> <p>WITNESS :</p> <p>I. ....</p> <p>II. ....</p>	<p>For Party No.-2 For and on behalf of M/s.....</p> <p>(Signature of the authorized representative)</p>
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<p>Common Seal of ..... has been affixed in my/ our presence pursuant to Board of Director's Resolution dated ..... AND Power of Attorney dated .....</p> <p>Name ..... Designation ..... Signature .....</p> <p>WITNESS :</p> <p>I. ....</p> <p>II. ....</p>	<p>For Authorized Representative of Joint Venture For and on behalf of M/s. .....</p> <p>(Signature of the authorized representative)</p>
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**Note:**

1. For the purpose of executing the Joint Deed of Undertaking, the non-judicial stamp papers of appropriate value shall be purchased in the name of Joint Venture.
2. The Undertaking shall be signed on all the pages by the authorised representatives of each of the partners and should invariably be witnessed.
3. Appendix 1 must be enclosed

Joint Venture Agreement

*[To be on non-judicial stamp paper of Rupees One Thousand Only (INR 1000/-) or appropriate value as per Stamp Act relevant to place of execution.]*

**(no specified format, bidders to use own format)**