

# Expression of Interest (EOI) for Empanelment of Rate Contract of 1 year for Design, Supply, Installation & Commissioning with Comprehensive Maintenance (for 5 year) of 1kWp to 100 kWp Off Grid Rooftop Solar Power Plant in Bihar

**NCB No: BREDA/Tender/SPV/off grid/rooftop/1kWp-100kWp/15/2016-17**



Bihar Renewable Energy Development Agency  
(A Govt. Agency under Energy Department)  
3<sup>rd</sup> Floor, Sone Bhawan, Birchand Patel Marg,  
Patna – 800001, Bihar, India  
Tel: 0612-2507734 Fax: 0612-2506572  
Website: [www.breda.bih.nic.in](http://www.breda.bih.nic.in) Email: [breda@breda.in](mailto:breda@breda.in)

## NOTICE INVITING EXPRESSIONS OF INTEREST (EOI) FOR EMPANELMENT

Bihar Renewable Energy Development Agency, a Government Agency under Energy Department of Bihar Government (hereinafter called “BREDA”) invites Bids through Expression of Interest (EOI) from the Bidders fulfilling the Eligibility Criteria specified hereunder for **Expression of Interest (EOI) for Empanelment of Rate Contract of 1 year for Design, Supply, Installation & Commissioning with Comprehensive Maintenance (for 5 year) of 1 kWp to 100 kWp Off Grid Rooftop Solar Power Plant in Bihar.** The Bidder should meet the following Eligibility Criteria in order to be eligible for participating in this EoI:

- a. All MNRE channel partner are allowed (enclosed MNRE CHANNEL PARTNER certificate mandatory).
- b. Bidder should not have been black listed by any Government Department, Organization, Agency, Authority or any Public Sector Undertaking owned by the Government during the last three years as on the date for Bid submission.
- c. Bidder should have valid CST/State VAT/TIN and all other applicable tax registration certificate and copies of the same duly attested shall be furnished.

### Bid Information

Sl. No.	Activity	Duration
1.	Online Sale/Download date of Tender documents	From 20/01/2017 (13:00 Hrs.) to 27/02/2017 (18:00 Hrs) (Bihar Renewable Energy Development Agency”, 3 <sup>rd</sup> Floor, “Sone Bhawan”, Birchand Patel Marg, Patna – 800001.)
2	Cost of Bidding Document (submission of cost of bidding document is mandatory for all bidders, no exemption for SSI/NSIC registered agency)	Non-refundable INR 10000.00 to be paid through (Demand Draft (DD) in favor of Bihar Renewable Energy Development Agency" payable at Patna. (Bank details: - A/c No. - 50091813870, Allahabad Bank, Patna Main Branch, IFSC CODE: -ALLA0210003). Separate Tender processing fee of Rs. 1124/- to be paid through online mode i.e. internet payment gateway (Debit/credit card, Net banking, NEFT, RTGS).
3.	Pre-bid conference	31/01/2017 at 11:00 Hrs. (Bihar Renewable Energy Development Agency”, 3 <sup>rd</sup> Floor, “Sone Bhawan”, Birchand Patel Marg, Patna – 800001.)
4.	Date/Time for submission of offer/Bid	28/02/2017 up to 16:00 Hrs. ( <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )
5.	Submission of Tender fee , EMD and tender document with relevant test report and certificate in Hard Copy/Original	02/03/2017 at 14:00 Hrs (Demand Draft (DD) in favour of Bihar Renewable Energy Development Agency" payable at Patna. (Bank details: - A/c No. - 50091813870, Allahabad Bank, Patna Main Branch, IFSC CODE: -ALLA0210003).
6.	Date & time for opening of Financial Bid	03/03/2017 at 15:30 Hrs. ( <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> )
7.	Validity of Bid	180 days from the date of opening of Financial Bid.
8.	Bid Security (EMD) (submission of EMD is mandatory for all bidders, exemption for SSI/NSIC registered agency as per GoI rules and regulation)	INR 2,00,000.00 (INR Two Lakh only) in form of a DD from any Nationalized /Scheduled Commercial Bank.

1. **Bidders are required to submit the documentary proof for the qualifications mentioned above.**
2. Notwithstanding anything stated above, BREDA reserves the right to assess the capabilities and capacity of the Bidder to perform the Contract should the circumstances warrant such assessment in the overall interest of BREDA.
3. Consortium, Joint Venture/Business partnership is not allowed.
4. All Benefits for SSI/NSIC units as per GoI rule will be applicable. ( **Submission of cost of bidding document is mandatory for all bidders, no exemption for SSI/NSIC registered agency**)
5. **The bidders are required to submit Envelope I containing Cost of Bidding document and Envelop II containing EMD and Envelope III containing signed tender document, all in a forth envelop i.e. Envelop IV which must be received by BREDA at the address and not later than the time and date stated in the Invitation for Bid (IFB). The Envelop IV should be sealed and marked with EoI Number and should be subscribed on the envelop as Expression of Interest (EOI) for Empanelment of Rate Contract of 1 year for Design, Supply, Installation & Commissioning with Comprehensive Maintenance (for 5 year) of 1 kWp to 100 kWp Off Grid Rooftop Solar Power Plant in Bihar.**
6. **However each envelops should be duly sealed and stamped with EOI no. and respective Envelop number. Document not found in required fashion will not be acceptable.**
7. The RFP/EOI document containing the project profile, invitation for qualification and criteria for evaluation may be obtained from the website: [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).
8. For support related to e-tendering process, bidders may contact at following address “e- Procurement HELP DESK, First Floor, Plot No.- M/22, Road No.-25, Sri Krishna Nagar, Bank of India Compound, Patna-800001, Contact No: 0612-2523006; 7542028164”. Vendor may visit [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).
9. Detailed NIT/EOI can be seen of website- [www.breda.bih.nic.in](http://www.breda.bih.nic.in) or [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).
10. For participating in e-tendering process, the contractor shall have to get them registered to get used ID, Password and digital signature. This will enable them to access the website [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) and download/participate in e-tender. Those whose are not registered in e-tendering systems, they may contact “e- Procurement HELP DESK, First Floor, Plot No.- M/22, Road No.-25, Sri Krishna Nagar, Bank of India Compound, Patna-800001, Contact No: 0612-2523006; 7542028164” for registration.
11. BREDA will not be responsible, in case of any delay, due to any reason whatsoever, in receipt of Bid Documents by the Bidders.
12. 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.
13. BREDA, Patna intends to undertake a competitive bidding process in order to shortlist and qualify suitable Bidders, who shall be eligible for evaluation of their price bids towards selection of the successful bidder in terms of the EoI for award of the project.
14. The successful Bidder, at the end of the bidding process, shall be awarded the contract by BREDA, Patna 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, Patna. Further, the contractor shall be responsible for remedying all defects and deficiencies, expected during the defects liability period in terms of the EPC contract.
15. The detail of the bidding process and summary of the scope of construction works for the project is included in the EoI document.
16. **Essential Requirement**
  - In the unlikely event of the server for [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) being down for more than two consecutive hours (in the period from midnight to closing time for receipt of tenders) on the last

date of receiving of bid, the last date of the same shall be extended by concerned authority only to the next working day till the last receiving time stipulated in the original NIT.

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

**EoIs are to be submitted in hard copy along with required documents and with latest MNRE technical specification test certificate approved by MNRE/NABL accredited or approved test lab for Solar Power Plant at the following address:**

**Bihar Renewable Energy Development Agency  
(A Govt. Agency under Energy Department)  
3<sup>rd</sup> Floor, "Sone Bhawan", Birchand Patel Marg,  
Patna – 800001. Bihar State, India.**

**Tel: 0612-2507734 Fax: 0612-2506572, Website: [www.breda.bih.nic.in](http://www.breda.bih.nic.in)**

Organizations are requested to submit realistic and achievable numbers in this regard since lack of achievement at the end of the period may result in the companies being not selected for the future periods of the empanelment. The EoIs will be evaluated by the **BREDA Management Committee** for approval and selection.

**Deputy Director,  
BREDA, Patna**

## Table of Contents

<b>Section</b>	<b>Particulars</b>	<b>Page</b>
Section 1	Instructions to Bidders	8
Section 2	Bids Evaluation Procedure	14
Section 3	General Conditions of Contract	15
Section 4	Technical Specifications	21
	<b>Formats for Submitting RFP and Checklist</b>	26

## **SECTION - 1 INSTRUCTIONS TO BIDDERS**

### **1.1 Examination and Understanding of Bidding Documents**

In connection with the Invitation for Bid (IFB), Bihar Renewable Energy Development Agency (hereinafter called "BREDA") issues this Bidding Document for Empanelment of Design, Supply, Installation & Commissioning with Comprehensive Maintenance for 5 year of 1kWp to 100 kWp Rooftop Solar Off Grid Power Plant in Bihar.

The Bidder is advised to read carefully all instructions and conditions appearing in the Bidding Documents and understand them fully. All information required as per the Bidding Documents must be furnished. Failure to provide the information as required may render the Bid as non-responsive to the Bidding Documents.

The Bidder shall be deemed to have examined the Bidding Documents, to have obtained its own information in all matters whatsoever that might affect the carrying out of the works and to have satisfied himself to the sufficiency of its Bid. The Bidder shall be deemed to know the scope, nature and magnitude of the works and requirement of materials, equipment, tools and labor involved, wage structures and as to what all works it has to complete in accordance with the Bidding Documents irrespective of any defects, omissions or errors that may be found in the Bidding Documents.

### **1.2 Scope of Work**

Empanelment for Design, Supply, Installation & Commissioning and Comprehensive Maintenance for 5 year of 1 kWp to 100 kWp Rooftop Solar Off Grid Power Plant in Bihar.

All the expenditure to be incurred for the Comprehensive Maintenance Contract (including Regular Operation and Maintenance (O&M) ) of the every system for the period of 5 years from the date of commissioning shall be borne by the developer.

- a. The O&M/ CMC for the period shall cover the tools and tackles, spare parts, any consumables, and any comprehensive maintenance contract required to be entered for any of the accessories or systems.
- b. Each system must be guaranteed against any manufacturing/ design/ installation defects for a minimum period of 5 years.
- c. PV modules used must be guaranteed for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.
- d. During the CMC/ O&M period, MNRE / BREDA / OWNER users will have all the rights to cross check the performance of the installed system. BREDA/Owner may carry out the frequent inspections (that also include inspection by third party) of system installed and randomly pick up its components to get them tested at Govt./ MNRE approved any test centre. If during such tests any part is not found as per the specified technical parameters, BREDA/OWNER

will take the necessary action. The decision of BREDA/Owner in this regard will be final and binding on the bidder.

- e. BREDA may ask developer/agency/bidder to generate enquiry about product (Various capacity System) and create awareness program also.
- f. All the expenditure to be incurred for the operation and maintenance of the plant including remote monitoring cost for the period of five years from the date of commissioning shall be borne by the developer.
- g. The O&M of the plant for the period shall cover the tools and tackles, spare parts, any consumables, and any comprehensive maintenance contract required to be entered for any of the accessories or systems. Rates quoted should be firm and fixed. No price variation and escalation will be allowed.
- h. The bidder shall provide AMR based Bi-Directional Energy Meters for each power plant which shall be tested at the respective Discom/MRT division of Energy Department, Bihar. All expenditure incurred for the meters and its testing shall be borne by the bidder.
- i. The bidder shall play an active role in selection of beneficiary as the beneficiary cost may or may not be involved.

### **1.3 Cost of Bidding**

- 1.3.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and BREDA shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

### **1.4 Clarifications and Amendments**

- 1.4.1 The Bidder requiring any clarification of the Bidding Documents shall make a request to the BREDA in writing provided that such request is received not later than Pre-bid. BREDA will respond to any request for clarification, which shall be in writing with copies to all Bidders who have purchased the Bidding Document including a description of the query but without identifying its source.
- 1.4.2 At any time prior to the deadline for submission of Bids, BREDA may amend the Bidding Document by issuing amendment/addendum. Any amendment/addendum issued shall be part of the Bidding Document and shall be communicated to all who have obtained the Bidding Document from the BREDA.
- 1.4.3 Amendments/addendum to Bidding Documents issued by BREDA, if any, must be signed and submitted along with the Bid and the Bid submitted by the Bidder shall take into account all such amendments/addendum. If acceptance of the terms and conditions given in the Bidding Documents/amendment has any price implications, the same shall be included in the price part.

### **1.5 Language of Bid**

1.5.1 The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the BREDA, shall be written in English language. If the supporting documents and printed literature that are part of the Bid are in another language, they should be accompanied by an accurate translation of the relevant passages in English language in which case, for purposes of interpretation of the Bid, such translation shall govern.

## **1.6 Period of Validity of Bids**

1.6.1 Bids shall remain valid for a period of 180 days from the date of Financial Bid. A Bid valid for a shorter period shall be rejected by the BREDA as non responsive.

1.6.2 In exceptional circumstances, prior to the expiration of the Bid validity period, BREDA may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bidder accepts to extend the period of Bid validity, the validity of Bid Security shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid.

## **1.7 Bid Security**

1.7.1 The Bidder shall furnish, a Bid Security in a separate sealed envelope in the amount and currency as stipulated in the Invitation for Bid (IFB).

1.7.2 The Bid Security shall be in the form of a DD from any Nationalized / Scheduled Commercial Bank.

1.7.3 Any Bid not accompanied by prescribed Bid Security shall be rejected by BREDA as non-responsive.

1.7.4 The Bid Security of all the unsuccessful Bidders will be returned as promptly as possible, but not later than twenty-eight (28) days after the expiration of the Bid validity period. The Bid Security of the Successful Bidder to whom the Contract is awarded will be returned when the said Bidder has signed the Contract Agreement and has furnished the required Contract Performance Guarantee.

1.7.5 The Bid security may be forfeited.

(i) If the Bidder withdraws or varies its Bid during the period of Bid validity.

(ii) If the Bidder does not accept the arithmetical correction of its Bid Price

(iii) If the Bidder/its representative commits any fraud while competing for this Contract.

(iv) In the case of a Successful Bidder, if the Bidder fails to sign the Contract Agreement and/or to furnish the required Contract Performance Guarantee within the specified time limit.

1.7.6 No interest will be paid for any type of money kept with BREDA.

## **1.8 Deviations to Commercial Conditions**

1.8.1 The Bidder is not permitted to take deviation to any of the Commercial Conditions contained in Instructions to Bidders, Bids Evaluation Procedure and General Conditions of



Contract. In case deviation is taken by the Bidder to any of the conditions of the aforesaid Sections, its Bid will be considered as non- responsive.

### **1.9 Basis of Price**

The price quoted should include all taxes and duties, custom duty, excise duty, service tax, sales tax, C.S.T., local taxes, Trade Tax/VAT, Income Tax, Surcharge on income tax etc. if any. A supplier/ contractor shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable as per Government income tax & service tax norms will be payable by the contractor. If any new tax/duty is levied during the contract period the same will be borne by the firm exclusively. TDS will be deducted from the payment of the contractor as per the prevalent laws and rules of Government of India and Government of Bihar state in this regard. The Bidders shall quote the price for the entire system and installation/distribution services on "EPC Single Point Responsibility Basis" such that the total Bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the Bidding Document in respect of the design, manufacture, including procurement, delivery, distribution of the systems/equipment. This includes all requirements under the Contractor's responsibilities for testing of the system/equipment and the acquisition of all permits, approvals and licenses, etc.; Comprehensive maintenance, maintenance and training services and such other items and services as may be specified in the Bidding Document, all in accordance with the requirements of the General Conditions of Contract and Technical Specifications. Items against which no price is entered by the Bidder will not be paid for by the BREDA when executed and shall be deemed to be covered by the prices for other items.

#### **PRICE FALL CLAUSE:**

- (i) The prices charged for the systems supplied under the Contract by the Contractor shall in no event exceed the lowest price at which the Contractor sells the Systems or offer to sell systems of identical description to any Department of the Central Government or any Department of a State Government or any statutory undertaking of the Central or a State Government, as the case may be, during the period till all Orders placed during the currency of Contract is completed.
- (ii) If at any time during the said period, the Contractor reduces the Sale price, sells or offers to sell such systems irrespective of quantity to any person(s)/organization(s) including the Purchaser or any Statutory Undertaking of the Central or a State Government, as the case may be, at a price lower than the price chargeable under this Contract, he shall forthwith notify such reduction or Sale or offer of Sale to the Director, BREDA and the price payable under the Contract for the systems supplied after the date of coming into force of such reduction or sale or offer of sale stand correspondingly reduced. The above stipulation will, however, not apply to: (a) Export/deemed Export by the Contractor (b) Sale/ normal replacement.

(iii)The Contractor shall furnish the following certificate to the Paying Authority along with each bill for payment for supplies made against the Contract.

“I/We certify that there has been no reduction in sale price of the Systems of Description identical to the Systems supplied to the Government under the contract herein and such Systems have not been offered/sold by me/us to any person(s)/organization(s) including the purchaser or any Department of Central Government or any Department of a State Government or any statutory Undertaking of the Central or State Government as the case may be up to the date of the bill/the date of completion of supplies against all orders placed during the currency of the Contract at a price lower than the price charged to the Government under the Contract except for quantity of Systems as mentioned at para (ii) above.

NOTE: The Contractor will also inform the Paying Authority/ Director, BREDA as soon as the supply against the said contract is completed.

Note: The bidder is required to submit a quarterly report along with a consolidated 12 months report of the system with a copy of the service log book as mentioned in Clause 3.6 along with the invoice for O&M.

#### **1.10 Signing, Sealing and Submission of Bids**

1.10.1 BID shall be submitted through e-tendering mode only at ([www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in))

1.10.2 The bidders are required to submit Envelope I containing Cost of Bidding document and Envelop II containing EMD and Envelope III containing signed tender document, all in a forth envelop i.e. Envelop IV which must be received by BREDA at the address and not later than the time and date stated in the Invitation for Bid (IFB). The Envelop IV should be sealed and marked with EOI Number and should be subscribed on the envelop as **Expression of Interest (EOI) for Empanelment of Rate Contract of 1 year for Design, Supply, Installation & Commissioning with Comprehensive Maintenance (for 5 year) of 1 kWp to 100 kWp Off Grid Rooftop Solar Power Plant in Bihar.**

1.10.3 However each envelopes should be duly sealed and stamped with EOI no. and respective Envelop number. Document not found in required fashion will not be acceptable.

1.10.4 In case a specified date for submission of Bid being declared a holiday for BREDA, the Bids will be received up to the appointed time on the next working day. BREDA shall not consider any Bid that is received after the deadline for the submission of Bids and the same shall be declared as received late, rejected and returned unopened to the Bidder.

1.10.5 One Hard Copy of technical Bid shall also be submitted to BREDA office at the time of Submission of tender Fee & Bid Security fee.

#### **1.11 Bid Opening**

1.11.1 The BREDA will open the Techno Commercial Bids at the time, on the date and at the place specified in the Invitation for Bid (IFB) through e-tendering mode only at ([www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in))

1.11.2 The Financial Price Bids of those Bidders whose Techno-Commercial Bids have been found to be substantially responsive to the Bidding Documents will be opened in the presence of the Bidders representatives who choose to attend at the address, date and time intimated by BREDA.

**1.12 Bids Evaluation Procedure**

1.12.1 Techno- Commercial Bids and Financial Price Bids shall be evaluated in the manner as specified in Bids Evaluation Procedure.

1.12.2 Subsidy amount will be fixed according to L1 quoted price

1.12.3 Negotiation of price can be made on the L1 quoted price.

**1.13 BREDA's Right to Accept any Bid, and to Reject any or all Bids**

1.13.1 BREDA reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to Contract award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, Bid securities, shall be promptly returned to the Bidders.

**1.14 Award of Contract**

1.14.1 Subject to Clause 1.13, BREDA shall award the Contract to multiple bidders whose offer has been determined to be the lowest (L1) evaluated Bid and is substantially responsive to the Bidding Document. Other Bidder may be asked to match rate and depending on their consent numbers of bidder/ firm may be empaneled with BREDA.

1.14.2 BREDA reserves the right to vary the quantity of any of the Equipment/Spares and/or delete any item of Equipment/Spares altogether at the time of Award of Contract.

1.14.3 BREDA shall issue Notification of Award of the Contract to the Successful Bidders prior to the expiration of the period of Bid validity in original along with a copy thereof and the Successful Bidders shall return the copy duly accepted and signed by the authorized person on behalf of the Successful Bidder clearly indicating the date of signing, the name and designation of the signatory within such period as specified in the Notification of Award.

1.14.4 Until a formal Contract is prepared and executed, the Notification of Award and its acceptance communicated by the Successful Bidder as aforesaid shall constitute a binding Contract.

1.14.5 Multiple bidders will be selected where the contract will be awarded, subject to the matching of the L1 price or further negotiation with bidders. The decision on the same by Director, Breda will be final.

Note: The bidders may be required to show a power point presentation for the work being awarded showcasing the methodology with technology and designs being considered for the implementation of the work order.

### **1.15 Signing of Contract**

1.15.1 Within twenty eight (28) days of issued of the notification of award, the Successful Bidders shall sign the Contract Agreement and return it to BREDA.

### **1.16 Completion Time Schedule**

1.16.1 The Plant and Equipment covered under this Bidding Document and, in particular, in the Technical Specifications of the Bidding Document shall be designed, manufactured, supplied, erected, tested and commissioned at the Site within the completion period. The system is allowed to be get inspected, supplied, installed and commissioned within three (3) months time from the date of issue of work order (ZERO DATE).

1.16.2 In case the Contractor (Successful Bidder) fails to achieve the completion of the system and establishing agreed guaranteed technical parameters within the period specified in the Technical Specification from the work order date(ZERO DATE), BREDA, without prejudice to its other remedies under the contract, *shall levy a penalty on the Contractor at the rate of 0.5% of the Contract Price per week of delay or part thereof subject to maximum of ten percent of the Contract Price unless the time extension is allowed by Director, BREDA.* Once the maximum is reached, BREDA may consider termination of the contract.

1.16.3 The bidder will give Name and full contact detail of service center and its employee placed at the service center for filing any complains and its rectification along with response time. It should be followed by contact details of superior/other person with its response time under hierarchical order such that if the lower level person does not response within given time the higher level be consulted. The hierarchy of atleast three levels with response time at each level be provided. *A penalty of INR 500/- per day per system will be imposed on bidder after 7 days from the day it was informed about the defect/rectification till the same is rectified.*

### **1.18 Contract Performance Guarantee**

1.18.1 The Bidder shall furnish Contract Performance Guarantee of 10% of intimated work order value in the form as specified in the General Conditions of Contract.

### **1.19 Validity of the rate contract**

1.19.1 The rate contract shall be valid for 1 year from the effective date of contract. The rate contract may be extended with the approval of Director, BREDA. The decision taken by Director, BREDA shall be final.

## SECTION – 2

### BIDS EVALUATION PROCEDURE

#### **2.1 Evaluation of Techno- Commercial Bids**

- 2.1.1 BREDA will examine the Bids to determine whether they are complete, whether required securities have been furnished, whether the documents have been properly signed and whether the Bids are generally in order.
- 2.1.2 Prior to the detailed evaluation, BREDA will determine whether each Bid is generally complete, acceptable and is substantially responsive to the Bidding Documents. BREDA's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence. If a Bid is not substantially responsive, it will be rejected by BREDA, and may not subsequently be made responsive by the Bidder by correction of the nonconformity.
- 2.1.3 BREDA reserves the right to seek clarifications/information considered necessary during examination/ evaluation of the Bids submitted and the same shall be furnished by the Bidder within the date and time specified by BREDA. Any clarification submitted by a Bidder that is not in response to a request by BREDA shall not be considered. BREDA request for clarification and the response shall be in writing. No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors found by BREDA in the evaluation of the Bids. If a Bidder does not provide clarifications of its Bid by the date and time set in BREDA's request for clarification, its Bid may be rejected.
- 2.1.4 The BREDA will carry out a detailed evaluation in order to determine whether the technical aspects are in accordance with the requirements set forth in the Technical Specification and commercial aspects are in conformity with the Bidding Documents. In order to reach such a determination, the BREDA will examine and compare the technical aspects of the Bids on the basis of the information supplied by the Bidders, taking into account the following factors:
- (a) overall completeness and compliance with the Technical Specifications and Drawings; suitability of the facilities offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the Bid. The Bid that does not meet acceptable standards of completeness, consistency and details will be rejected for non-responsiveness
  - (b) Achievement of specified performance criteria by the facilities
  - (c) Any other relevant factors, if any, that the BREDA deems necessary or prudent to take into consideration.
  - (d) Compliance with the time schedule as specified in the Bidding Documents.

## SECTION - 3

### GENERAL CONDITIONS OF CONTRACT

#### 3.1 Definitions

3.1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) "Bid" means the Bid or the proposal and the attachments thereto submitted by the Bidder in the form and manner specified in the Bidding Documents
- (b) "Bidder" means a person who submits its Bid in response to the Invitation for Bid (IFB) issued by BREDA.
- (c) **"Owner" Means BREDA/Users/Beneficiary.**
- (d) "Contract" means the Contract Agreement entered into between BREDA and the Contractor; together with the Contract Documents referred to herein; they shall constitute the Contract, and the term "the Contract" shall in all such documents be construed accordingly
- (e) "Contract Documents" means the documents listed below (including any amendments thereto):
  - (i) Notification of Award till the execution of Contract Agreement between BREDA and the Contractor
  - (ii) The Contract Agreement between BREDA and the Contractor and the attachments thereto.
  - (iii) Minutes of negotiations if any signed between BREDA and Successful Bidder prior to signing of the Contract Agreement
  - (iv) General Conditions of Contract
  - (v) Technical Specifications
  - (vi) Instructions to Bidders
  - (vii) Designs and Drawings
  - (viii) Bid submitted by the Successful Bidder (Techno- Commercial Bids, Financial Price Bids, Bid Security etc.)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 correlative, complementary and mutually explanatory. The Contract shall be read as a whole.
- (f) "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;
- (g) "Company" shall mean a company as defined under the Companies Act, 1956 including amendment thereto as in force ;
- (h) "Contractor" means the person(s) whose Bid to perform the Contract has been accepted by BREDA and is named as Contractor in the Contract Agreement, and includes the legal successors or permitted assigns of the Contractor

- (i) "Contract Price" means the sum specified in the Notification of Award and the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
- (j) "EPC" means Engineering, Procurement and Construction
- (k) "Government" means Government of India and /or Bihar Government and includes its departments, bodies, agencies, authorities etc.
- (l) "Guarantee/ Warranty Period" means the period during which the Contractor shall remain liable for repair or replacement of any defective part of the Works performed under the Contract.
- (m) "Latent Defect" means the defects inherently lying within the material or arising out of design deficiency which do not manifest themselves during the Defect Liability Period and cannot be detected by reasonable examination during inspection and testing by the BREDA/Owner during the Defect Liability Period.
- (n) "Notification of Award" means notification in writing issued by BREDA to the Successful Bidder that its Bid has been accepted
- (o) "Party" means the BREDA or the Contractor, as the context requires, and "Parties" means both of them
- (p) "Person" means any individual, corporation, partnership, joint stock company, body corporate, trust, unincorporated organization, joint venture, government or political subdivision or agency thereof
- (q) "Plant" Design, Supply, Installation & Commissioning and Comprehensive Maintenance for 5 year of 1kWp to 100 kWp Rooftop Solar Off Grid Power Plant in Bihar
- (r) "Remote Monitoring System" means the system installed at site through which plant operational condition can be monitored from/at BREDA Office or at any location for any power plant installed. For remote monitoring different ways of communication can be used: Ethernet, Internet, dial up access, GSM etc.
- (s) "Site" or "location", means all over Bihar.
- (t) "Written" or "In Writing" means handwritten, typewritten, printed or electronically made, and resulting in a permanent record
- (u) "Works" shall mean engineering, design, manufacture, supply of plant and equipment, civil works, labor, services and complete erection, testing, commissioning of the equipment/ system including all transportation, handling, unloading, storage etc. to be carried out by the Contractor as per the Contract.

### **3.2 Amendment**

- 3.2.1 No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each Party hereto.

### **3.3 Applicable Laws**

- 3.3.1 The Contract shall be governed by and interpreted in accordance with the laws of India.

### 3.4 Terms of Payment of Contract Price excluding CMC

- (i) Sixty (60) percent of the Contract Price on delivery of Plant and Equipment at Site as specified in the Bidding Documents within thirty (30) days of receipt of invoice, material dispatch clearance certificate, test certificate of each plant and equipment (**MNRE approved test report** for Invertors & battery, Module test certificates, cables, junction box/enclosures for invertors/charge controller, lightning arrestor, Structures wind load bearing capacity certificate, GI certificate for Module Mounting Structures(MMS)), other applicable certificates as mentioned in the technical sheet for cables, switches/circuit breakers/connectors, lightning arrestors, certificate of transit insurance (original + two copies) and BOM of each site. The payment will be released only after the inspection has been done and the reports been submitted.
- (ii) Thirty (30) percent on completion of erection, testing and commissioning of the Plant and Equipment to the complete satisfaction of the Owner and after successful completion and submission of Photographs of Plant along with beneficiaries and a copy of respective I-V curves of the modules, complete MNRE inspection format(A,B and C) in accordance with the provisions of the Technical Specifications and as approved by the Owner within thirty days of receipt of invoice (original + two copies) along with the supporting documents of completion of Works and Performance and Guarantee Tests Reports. The bidder is also required to submit a consolidated data sheet stating the details as mentioned below:

Sr. No.	District	Name of the beneficiary	Address with contact No.	Serial No. of the PCU	Serial No. of the Modules	Photograph of the beneficiary

Note: The onus of signing and submission of the required MNRE format (A,B,C) will be on the bidder itself.

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

- (iii) Balance 10% of the contract price shall be paid in 5 yearly installments (2% per year) towards Comprehensive maintenance (which shall include regular Operation and Maintenance). This amount shall be payable for a period of five years from the date of commissioning of the Plant, and will be released in equal installments each year subject to performance of the Plant according to the Technical Parameters as provided in the Technical Specifications and to the satisfaction of the Owner.

Note: The bidder is required to submit a monthly report along with a consolidated 12 months report of the plants with a copy of the service log book as mentioned in Clause 3.6(iii) along with the invoice for O&M.

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

### 3.5 Contract Performance Guarantee/Security



- (i) The Contractor shall provide to BREDA within 14 (fourteen) days of 'Intimation of Work Order', the Contract Performance Guarantee in the form of an unconditional and irrevocable, on demand Bank Guarantee equivalent to 10% of the Contract Price for the due performance of its obligations under the Contract from a Nationalized/ Scheduled Commercial Bank in the form approved by BREDA. The work order shall be issued after the submission of 10% Contract Performance Guarantee.
- (ii) The period of validity of the Contract Performance Guarantee shall be ninety (90) Days after the expiry of the defect liability period of 18 months and Contractor fulfilling all its obligations under the Contract.
- (iii) If the Contractor fails to fulfill obligations under the Contract, the proceeds of Contract Performance Guarantee/Bid Security shall be appropriated by BREDA as part compensation for any loss resulting from Contractor's failure to perform and fulfill the various obligations under Contract without prejudice to any other rights or remedies to which BREDA may be entitled to under the Contract and the applicable laws.
- (iv) The Contract Performance Security shall be discharged by BREDA within thirty (30) Days from the date of expiration of the validity period as provided hereinabove.

### **3.6 Supply, Erection, Testing, Commissioning & Inspection of Plant**

- (i) The Contractor shall Design, manufacture, supply, erect, test and commission the Solar Power Plant which shall consist of equipment/ components, namely, Solar PV modules comprising required number of Poly-crystalline PV modules, PCUs ,Mounting structures, Tracking Device, civil structures, earthing and lightening protections. IR/UV protected PVC pipes, cables, junction boxes, ON-OFF Switch and other accessories and remote monitoring system. PV Array is mounted on Suitable Structure with a provision of tracking. The Plant shall be implemented in accordance with the Technical Specifications contained in Section IV of the Bidding Documents.
- (ii) Material shall be strictly as per tender specifications. If there is any left out specification, the same shall be considered as per the MNRE specification/applicable latest BIS/International Standards.
- (iii) It shall be the sole responsibility of the contractor to get verified the quality & quantity of the supplied material at the site of delivery.
- (iv) Contractor, wherever applicable, shall after proper painting, pack and crate all the equipment in such manner as to protect them from deterioration and damage during rail and road transportation to the site and storage at the site till time of installation. Contractor shall be held responsible for all damage due to improper packing.
- (v) BREDA, may by written notice sent to the supplier, terminate the contract, in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the purchaser's convenience in the interest of BREDA.

- (vi) Any material /instrument required for completing /successful running of the project which is not mentioned in the tender will be provided by the bidder in the approved rates only and no additional payment shall be made.
- (vii) Service centre should be opened in each district where the power plant has been installed with one/two trained technician and sufficient numbers of critical components should be present there.
- (viii) The service centers are required to maintain a service log book for complains redressal of the beneficiary as per the format attached below:

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

- (ix) Inspection order will be issued within 7 days against inspection call raised by the bidder and the inspection will start within the next 7 days from the issuance of the order.

**3.7 Final Acceptance**

Upon successful completion of the performance guarantee tests at site by the Contractor, BREDA shall issue to the Contractor a 'MNRE INSPECTION FORMATE'. Such certificate shall not relieve the Contractor of any of its obligations which otherwise survive by the terms and Conditions of the Contract after issuance of such certificate.

**3.8 Defect Liability Period**

- (i) The Contractor warrants that the Plant or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant supplied and of the work executed.
- (ii) The Defect Liability Period shall be sixty (18) months from the date of satisfactory commissioning of the Plant. If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with BREDA regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good as BREDA shall determine at its discretion, such defect as well as any damage to the Plant caused by such defect.

**3.9 Warrantees and Guarantees**

- (i) The Contractor shall warrant that the Plant and Equipment supplied under the Contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The Contractor shall provide warrantee covering

the rectification of any and all defects in the design of Plant and Equipment, materials insurance and workmanship for a period of five (5) years from the date of commissioning. The Contractor shall transfer all the Guarantees/ Warrantees of the different components to Owner. The Warrantees and Guarantees aforesaid will not include the latent defects in the Plant and Equipment.

### **3.10 Penalty/ Liquidated Damages**

The delivery should be guaranteed under penalty clause. In case the supplier (tenderer) fails to complete the work within the time period specified in the Work order as 3 month after issue of Work order as project Completion time, the penalty clause will be imposable. The usual terms of penalty is at the rate of 0.5% of the value of materials delayed for a week or part thereof subject to a maximum of 10% of the total value unless time extension is allowed by Director, BREDA. Tenderer has to accept the penalty clause failing which rate contract will be considered invalid.

A penalty of INR 500/- per day per item will be imposed on bidder after 7 days from the day it was informed about the defect/rectification till the same is rectified.

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

### **3.11 Force Majeure**

- (i) Notwithstanding the provisions contained in the Bidding Documents; the Contractor shall not be liable to forfeit (a) Bid Security for delay and (b) termination of contract; if it is unable to fulfill its obligation under this Contract due to force majeure conditions.
- (ii) For purpose of this clause, "Force majeure" means an event beyond the control of the Contractor and not involving the Contractor's fault or negligence and not foreseeable, either in its sovereign or contractual capacity. Such events may include but are not limited to Acts of God, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight 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. BREDA may extend the date of completion for a further period corresponding to the period of force majeure.
- (iii) If a force majeure situation arises, the Contractor shall notify BREDA in writing promptly, not later than 7 (seven) 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.

### **3.12 Termination of Contract**

- (i) BREDA reserves the right to terminate the Contract either in part or in full due to reasons other than those mentioned under "Force Majeure". The BREDA shall in such an event give 15 (fifteen) days notice in writing to the Contractor of its decision to do so.
- (ii) At any point of time BREDA reserves right to cancel any or all empanelment.
- (iii) **BREDA reserves the right to blacklist any firm.**

**3.13 Transfer of Ownership**

- (i) The Ownership of the Plant and Equipment shall be transferred to the Owner when the Plant and Equipment are commissioned at the Site.
- (ii) Notwithstanding the transfer of Ownership of the Plant and Equipment, the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor until Completion of the Plant.

**3.14 Arbitration and Jurisdiction**

- (i) Any dispute between the BREDA/Owner and the Contractor arising out of this Contract will first be resolved amicably between the Parties. In such cases where dispute is not resolved between the Parties, then the Parties may mutually agree to appoint an arbitrator under the provisions of Arbitration and Conciliation Act, 1996.
- (ii) Any disputes arising shall be subject to the jurisdiction of the High Court of Patna.

**SECTION - 4  
TECHNICAL SPECIFICATIONS**

**1. Technical Specification:**

<b>Technical Specification of 1 kWp to 100kWp SPV Power Plant</b>		
<b>S.N.</b>	<b>Item</b>	<b>Description</b>
1	SPV Module	<ol style="list-style-type: none"> <li>1. The PV Modules should be crystalline silicon with a total array capacity</li> <li>2. The PV modules must be qualified as per IEC 61215 (revised)/IS 14286 standards and in addition, the modules must conform to IEC 61730-1 requirement for construction &amp; part -2 requirement for testing, for safety qualification.</li> <li>3. The PV modules must be tested and approved from any of the MNRE approved testing laboratories (UL, TUV, and NISE).</li> <li>4. The supplier shall provide performance guarantee for the PV modules used in the power plant must be warranted for the their peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.</li> <li>5. The efficiency of the PV modules should be minimum 14%.</li> <li>6. Only indigenously manufactured crystalline PV modules of min 200 Wp should be used.</li> </ol>
2	Battery Bank	<ol style="list-style-type: none"> <li>1. The battery bank comprising of batteries conforming to IEC 61427 &amp; IS 15549 or IS 13369 or IS 1651 BIS specification, low maintenance, stationary at C/10 rate should be supplied.</li> <li>2. Battery type should be Tubular GEL VRLA type only no other type is allowed</li> <li>3. Battery Capacity should be minimum of 7.2VAh/Wp</li> </ol>

3

Power Conditioning Unit with in built charge controller unit

1. Power Conditioning Unit will have following features preferably from Indian Manufacturer:
    - i. Conform to IEC 61683 / IS 61683 for efficiency measurements, and IEC 60068-2 (1, 2, 14, 30) equivalent BIS standard for environmental testing
    - ii. Type: IGBT/ MOSFET based
    - iii. Output voltage:  $230 \pm 2\%$ , 1 $\phi$
    - iv. Output frequency: 50 Hz $\pm$ 0.5 Hz
    - v. THD: Less than (<) 3%
    - vi. Efficiency:  $\geq 80\%$  (upto 10kWp) and :  $\geq 85\%$  for above 10kWp systems
    - vii. Ambient temperature: 0 to 50°C
    - viii. Relative humidity: 85% non-condensing.
  2. The inbuilt charge controller and MPPT should conform to applicable standards for requisite AC/DC Inputs.
  3. Series disconnect, PWM type
  4. Controlling element: IGBTs or MOSFET
  5. The Charge controller/MPPT units should conform to:
    - i. Design Qualification: IEC 62093, if charge controller is not in-built in the PCU
    - ii. Environmental Testing: IEC 60068-2 (1, 2, 14, 30)/ Equivalent BIS Std.
  6. Solid State MPPT based series pulse width modulation charger .
  - 7. Electronic protection with alarm indication**
    - i. Short circuit (Circuit breaker & electronics protection against sustained fault
    - ii. Overload i.e. 80% of load
    - iii. Over temperature
    - iv. Battery, PV reverse polarity
    - vii. Over Voltage (automatic shut down)
    - viii. Under Voltage (automatic shut down)
  - 8. Indications:**
    - i. Array on
    - ii. MPPT/PWM charge on
    - iii. Battery connected, charging
    - iv. PCU ON
    - v. Load on Solar & battery
    - vii. Grid charger on
    - viii. Grid on/off
  - 9. Display Parameters**
    - i. Charging current and Voltage
    - ii. Voltage of PV panels
    - iii. Battery- Voltage along with indication of charging and discharging
    - iv. PCU Loading
    - v. Output frequency
    - vii. Digital Display(s) of input DC SPV voltage & current, AC output voltage, frequency ,power and current, along with Energy Meter at the PCU output before the manual change-over switch.
    - viii. System reset button
    - ix. PCU should have data logging facility using Pen drives, Flash Drive or Memory cards.
    - x. AC voltage, kWh, current, frequency, P.F
    - xi. DC voltage, kWh, current
- NOTE:-
1. PCU should be capable of battery charging through solar as well as from grid.
  2. PCU should be capable of working without grid or non availability of grid at the site.
  3. PCU should be capable of doing Auto change over between solar, battery and grid.

4	Electrical safety, earthing and protection	<ol style="list-style-type: none"> <li>1. Surge Voltage Protection: Over Voltage Protection against atmospheric lightning discharge to the PV array is required. Protection is to be provided against voltage fluctuations in the load circuit itself and internal faults in the power conditioner, operational errors and switching transients.</li> <li>2. Cabling practice: Cable connections must be made using PVC insulated copper cables, as per BIS specifications. All cable connections must be made using suitable terminations for effective contact.</li> <li>4. Fast acting semiconductor type current limiting fuses shall be provided in PCU, and ELCB and MCB should be provided at the panel board fed by the PCU to protect from the load short circuit and earth leakage contribution.</li> <li>5. The PCU shall include an easily accessible emergency OFF button located at an appropriate position on the unit.</li> <li>6. The PCU shall include ground lugs for equipment and PV array grounding. PCU and PV array grounding shall be as per BIS standards.</li> <li>7. The PCU enclosure shall be weatherproof and capable of surviving climatic changes and should keep the PCU intact under all conditions in the room where it will be housed. The PCU shall be located indoor and should be either wall/ pad mounted. Moisture condensation and entry of rodents and insects shall be prevented in the PCU enclosure. Components and circuit boards mounted inside the enclosures shall be clearly identified with appropriate permanent designations.</li> <li>8. The Junction boxes, enclosures for PCUs/ Charge controllers should meet general requirements as per IP 54 (for outdoor)/ IP 21 (for indoor) as per IEC 529.</li> <li>9. LA and chemical earthing should be provided at the site.</li> </ol>
5	Junction Boxes	<ol style="list-style-type: none"> <li>1. Switches/ Circuits Breakers/ Connectors should meet general requirements and safety requirements as per IS 60947 Part I, II, III and EN 50521 for AC/DC</li> <li>2. There should be over load voltage protection for the system through MCB.</li> </ol>
6	Cables and Connectors	<ol style="list-style-type: none"> <li>1. PVC insulated copper cables with current rating suitable for AC and DC as per National Electrical Code, and meeting: <ol style="list-style-type: none"> <li>i. General test and measuring method as per IEC 60227 / IS 694</li> <li>ii. PVC insulated cables for working voltage up to and including 1100 V and UV resistant for outdoor installation as per IEC 60502/ IS 1554 (Pt. I &amp; II)</li> </ol> </li> <li>2. All cables supplied should have proper current carrying capacity.</li> <li>3. All cables shall be adequately supported.</li> <li>4. Outside of terminal/ panels/ enclosures shall be protected by conduits.</li> <li>5. Cables shall be provided with dry type compression glands wherever they enter junction boxes, panels, enclosures.</li> <li>6. Cable Marking: All cable/wires are to be marked in proper manner by good quality ferule or by other means so that the cable can be easily identified.</li> <li>7. Selected cable should carry a current density of minimum 1.2 A/sq.mm.</li> <li>8. The layout of the wires should be clean with proper cable ties, ferrules, copper lugs &amp; with proper routing</li> </ol>

7	Mechanical Component	<ol style="list-style-type: none"> <li>1. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, and nuts bolts. Galvanizing should meet ASTM A-123 hot dipped galvanizing or equivalent, which provides at least spraying thickness of 100 microns on steel as per IS 5905.</li> <li>2. Structures shall be supplied complete with all members to be compatible for allowing easy installation at the site.</li> <li>3. The structures shall be designed to allow easy replacement of any module.</li> <li>4. Each structure shall have its angle of inclination to the horizontal as per the site conditions with minimum clearance from the ground 500mm from the bottom of module. Solar module should be inclined towards south direction</li> <li>5. Each panel frame structure shall be so fabricated as to be fixed on the rooftop column/ wall structures. The structure should be capable of withstanding a wind load of 150 km/hr after grouting &amp; installation.</li> <li>6. The array structure shall support SPV modules at a given orientation and absorb and transfer the mechanical loads to the rooftop column properly. All nuts and bolts shall be made up of very good quality stainless steel (SS 304/316) with anti theft protection.</li> </ol>
8	Warranty	<ol style="list-style-type: none"> <li>1. 5 years warranty for the entire system should be provided by the supplier as per the conditions of the contract.</li> <li>2. The Warranty Card to be supplied with the system must contain the details of the system supplied, as per format to be prescribed by BREDA.</li> <li>3. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80 % at the end of 25 years.</li> </ol>
9	Installation Detail, Diagram & Layout	<ol style="list-style-type: none"> <li>1. The supplier shall agree to provide installation details of the PV modules and the support structures with appropriate diagrams and drawings. Such details shall include, but not limited to, the following, <ol style="list-style-type: none"> <li>i. Determination of true south at the site</li> <li>ii. Array tilt angle to the horizontal, with permitted tolerance</li> <li>iii. Details with drawings for fixing the modules</li> <li>iv. Details with drawings for fixing the junction/ terminal boxes</li> <li>v. Interconnection details inside the junction/ terminal boxes</li> <li>vi. Structure installation details and drawings</li> <li>vii. Electrical grounding (earthing as per BIS specifications)</li> <li>viii. Inter-panel/ Inter-row distances with allowed tolerances</li> <li>ix. Complete Bill of Material, Bill of Quantity along with codes and Standards</li> </ol> </li> <li>2. The system layout with Diagrams &amp; drawings of the plant should be submitted at BREDA.</li> </ol>
10	Operation and Maintenance Manual	<ol style="list-style-type: none"> <li>1. An Operation, Instruction and Maintenance Manual, in English and Hindi, should be provided with the system.</li> <li>2. The following minimum details must be provided in the manual: <ol style="list-style-type: none"> <li>i. About Photovoltaic</li> <li>ii. About solar power plant – its components and expected performance.</li> <li>iii. About PV module</li> <li>iv. About battery</li> <li>v. About electronics</li> <li>vi. About charging and significance of indicators</li> <li>vii. DO's and DON'T's</li> <li>viii. Clear instructions on regular maintenance and trouble shooting of solar power plant</li> <li>ix. Name and address of the contact person in case of non-functionality of the solar power plant.</li> </ol> </li> </ol>
11	Bi-Directional Meters	AMR based Bi-directional meters (or Import/Export Meters) shall be provided (As per IS 14697/ as per CEA).



**BALANCE OF SYSTEM (BOS) ITEMS/COMPONENTS:**

The BOS items/ components of the SPV Power Plants/ systems deployed under the Mission must conform to the latest edition of IEC/Equivalent BIS Standards/MNRE specification / as specified below:

BOS Item/System	Applicable BIS/ Equivalent IEC Standard or MNRE Specifications	
	Standard Description	Standard Number
Charge Controller/ MPPT units Power Conditioners/ PCUs ** including MPPT and Protections	Environmental Testing Efficiency Measurements Environmental Testing	IEC 60068-2 (1,2,14,30)/ Equivalent BIS Std. IEC 61683/IS 61683 IEC 60068-2 (1,2,14,30)/ Equivalent BIS Std.
Storage Batteries	General Requirements & Methods of Testing Tubular VRLA/ GEL Capacity Test Charge / Discharge Efficiency Self- Discharge	IEC 61427 IS 1651/IS 13369 IS 15549
Cables	General Test and Measuring Method PVC insulated cables for working voltage up to and including 1100 V and UV resistant for outdoor installation.	IEC 60227/IS 694 IEC 60502/IS 1554 (Pt. I & II)
Switches/ Circuit Breakers / Connectors	General Requirements Connectors – safety A.C/D.C	IEC 60947 part I,II,III/ IS 60947 Part I, II, III EN 50521
Junction Boxes/ Enclosures for PCUs / Charge Controllers/ Luminaries	General Requirements	IP 54 (for outdoor )/ IP 21 ( for indoor ) as per IEC 529

**FORMATS FOR SUBMITTING RFP & CHECK LIST**

## Format 1

### Check List of Information/Documents Attached

Sr. No.	Particulars of Information/ Document	Format /Annexure Number	Bid Stage	Yes/No.
<b>A. Formats to be attached with the Bid</b>				
1	This Check List	Format 1	Technical	
2	Covering Letter	Format 2	Technical	
3	Letter of Authorization/ Power of Attorney	Format 3	Technical	
4	Bidder's Experience	Format 4	Technical	
5	Current Contract Commitments/ Work -in - Progress	Format 5	Technical	
6	Project Completion Schedule	Format 6	Technical	
<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/ Firm (Not more than one page of A4 size)	Annexure 1	Technical	
2.	Certificate of Incorporation / Registration of Bidder Company/ Firm	Annexure 2	Technical	
3	Attested copies of the valid Registration Certificates of CST/ PAN/CIN/State VAT/ TIN etc.	Annexure 4	Technical	
4	Signed and stamped copy of the Bidding Document including amendments/clarifications, if any, issued by the BREDA.	Annexure 5	Technical	
5	Undertaking from the Bidder of not being black listed by any Government Department, Organization, Agency, Authority or any Public Sector Undertaking owned by the Government as on the date for Bid submission.	Annexure 6	Technical	
6	Valid MNRE channel partner Credit rating certificate	Annexure 7	Technical	

**Note: All the documents submitted shall be properly indexed when submitted in hard copy.**

**Format 2**

**Covering Letter**

**(On the Bidder Company Letter Head):**

**From:**

(Full name and address of the Bidder Company)

**To:**

**Director,  
Bihar Renewable Energy Development Agency (BREDA),  
(A Government Agency under Energy Department),  
3<sup>rd</sup> Floor, "Sone Bhawan",  
Birchand Patel Marg,  
Patna - 800001 (Bihar)**

**Sub: Supply of off grid SPV power Plant of 1-100 kWp System with maintenance under guarantee for a period of 5(Five) years in the Bihar.**

NCB No: \_\_\_\_\_ Dated \_\_\_\_\_

Sir,

In response to your above referred NCB, we hereby submit our Bid for "Expression of Interest (EOI) for Empanelment of Rate Contract of 1 year for Design, Supply, Installation & Commissioning with Comprehensive Maintenance (for 5 year) of 1 kWp to 100 kWp Off Grid Rooftop Solar Power Plant in Bihar in the Bihar in full compliance with terms & conditions in the Bidding Documents referred to therein. A copy of the Bidding Document, duly signed on each page is also submitted as a proof of our acceptance of all specifications as well as terms and Conditions therein. We have submitted the documents as per Checklist and requisite amount of Bid Security in the form of DD/BG from a Nationalized/ Scheduled Commercial Bank.

Seal of Bidder Company

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

**Format 3**

**Letter of Authorization/Board Resolution/ Power of Attorney@**

**To:**  
**Director,**  
**Bihar Renewable Energy Development Agency (BREDA),**  
**(A Government Agency under Energy Department),**  
**3<sup>rd</sup> Floor, "Sone Bhawan",**  
**Birchand Patel Marg,**  
**Patna - 800001 (Bihar)**

NCB No: \_\_\_\_\_ Dated \_\_\_\_\_

Sir(s),

The Letter of Authorization / Board Resolution/ Power of Attorney to sign the Bid & enter into negotiations, furnish information/clarification, data and documents requested by BREDA in connection with the Bid and to sign the Contract in case the Works are awarded to the Bidder on behalf of the Bidder Company is enclosed herewith:

Seal of Bidder Company

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

@ In case Power of Attorney given by the Board of Directors/ Authorized/ competent Person of the Company already exists duly notarized by Public Notary authorizing the said person(s) to sign the Bid, enter into negotiations, furnish information/clarification, data and documents requested by the BREDA in connection with the Bid and to sign the Contract in case the Works are awarded to the Bidder on behalf of the Bidder Company, the same may be attached with the Bid and this form may be ignored.

Format 4

**Bidder's Experience**

<b>Owner Name, contact address/ telephone /fax/Email ID</b>	<b>Name of Agency to which Solar Power Plant supplied</b>	<b>Location</b>	<b>Nos. of unit supplied</b>	<b>LOI/LOA No. and date</b>	<b>Value of work Rs. Lac</b>	<b>Commissioning date</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>8</b>

Seal of Bidder Company

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

Date \_\_\_\_\_

**Format 5**

**Current Contract Commitments / Works In Progress**

<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 \_\_\_\_\_

Format- 6

Project Completion Schedule

Zero Date (Date of Issue of NOA)

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

Seal of Bidder Company

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



**Format 7**

**Form of Contract Performance Guarantee**

**(To be furnished within the period specified in the Bidding Documents after the signing of the Contract)**

(To be stamped in accordance with the Stamp Act,  
if any, of the Country/State of the issuing Bank) :

Bank Guarantee No..... & date .....

Issue date:

(For Rs .....)

Expiry date:

Claim period:

Name & Address of the Bank.

To,  
Director,  
Bihar Renewable Energy Development Agency (BREDA),  
(A Government Agency under Energy Department),  
3<sup>rd</sup> Floor, “Sone Bhawan”,  
Birchand Patel Marg,  
Patna – 800001 (Bihar)

Whereas M/s. .... (hereinafter called the Contractors) have entered into a contract with the Bihar Renewable Energy Development Agency (here in after called BREDA), Vide Notification of award no. .... dated..... of the BREDA, for **Expression of Interest (EOI) for Empanelment of Rate Contract of 1 year for Design, Supply, Installation & Commissioning with Comprehensive Maintenance (for 5 year) of 1 kWp to 100 kWp Off Grid Rooftop Solar Power Plant in Bihar** “on EPC Basis (hereinafter called “Station”) for the order value of INR.....

1. And whereas under the terms of the said Notification of award , the Contractor is to furnish to BREDA with an unconditional and irrevocable Bank Guarantee for an amount of .....% (.... percent) of the Contract Price for the due performance of the Contract and fulfillment of the terms thereof, we..... (Name of the Bank) ..... (hereinafter referred to as the Bank) do hereby undertake to pay to the BREDA an amount not exceeding INR..... against any loss or damage caused to or suffered or would be caused to or suffered by the BREDA by reason of any breach by the said Contractor (s) of any of the terms or conditions contained in the said Contract.
2. We..... (Name of the Bank)..... do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from BREDA stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the BREDA by reason of any breach by the same Contractor(s) of any of the terms or conditions

contained in the said Contract or by reason of the Contractor's failure to perform the said Contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding INR ..... only.

3. We..... (Name of the Bank)..... further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of BREDA under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or till .....BREDA certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor (s) and accordingly discharge the Guarantee. Unless a demand or claim under this Guarantee is made on us in writing on or before expiry of the period of ..... months from the time up to which the Guarantee continues to be enforceable, we shall be discharged from all liability under this Guarantee thereafter.
  
4. We..... (Name of the Bank)..... further agree with BREDA that BREDA shall have the fullest liberty, without our consent and without affecting in any manner our obligations hereunder, to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by BREDA against the said Contractor (s) and to forebear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reasons of any such variation or extension being granted to the said Contractor (s) or for any forbearance, act or omission on the part of BREDA or any indulgence by BREDA to the said Contractor (s) or by any such matter of thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.
  
5. Notwithstanding anything contained above –
  - i) Our liabilities under this guarantee shall not exceed INR ----- .
  - ii) This Bank Guarantee is valid up to -----.
  - iii) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if (BREDA) serve upon us a written claim or demand on or before ----- .

In witness whereof We \_\_\_\_\_ Bank Limited have executed this on this the \_\_\_\_\_ day of .....

Seal of the Bank

Signature \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_



**Format 8**

**Form of Contract Agreement**

**Contract Agreement**

Contract No. ....

Dated: -.....

This agreement made this ..... **day** of ..... month of year ..... between Bihar Renewable Energy Development Agency, a state nodal agency registered under societies registration act 1860, having its office at 3<sup>rd</sup> Floor, “Sone Bhawan”, Birchand Patel Marg, Patna – 800 001 (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 **Expression of Interest (EOI) for Empanelment of Rate Contract of 1 year for Design, Supply, Installation & Commissioning with Comprehensive Maintenance (for 5 year) of 1 kWp to 100 kWp Off Grid Rooftop Solar Power Plant in 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):.....

AND WHEREAS the Contractor had submitted it’s Bid for the said Project under its Covering Letter No. NIL dated ..... and the clarification/confirmations given through all its subsequent communications. (All put together are hereinafter referred to as the “Bid”).

AND WHEREAS the Owner has accepted the Bid, as conveyed to the Contractor vide letter of Award no. .... **dated** ..... (hereinafter referred to as the “Notification of Award”) on the terms and conditions brought out in the said Letter of Award and the Documents referred to therein resulting into a Contract.

AND WHEREAS the Contractor has accepted the Letter of Award, as conveyed to the Owner vide Letter No. .... **dated**..... (hereinafter referred to as the “Letter of Acceptance”) resulting into this Contract.

NOW THEREFORE THIS AGREEMENT WITNESSETH 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.

### **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. Letter of Award till the execution of Contract Agreement between the Owner and the Contractor (Appendix I).
- II. The Contract Agreement between the Owner and the Contractor and the attachments there to (This Contract Agreement).
- III. Corrigendum to the RFP including & clarifications issued by BREDA in response to queries raised by contractor w.r.t the Letter of Award (LOA), if issued any (Appendix II).
- IV. General Conditions of Contract (Appendix III).
- V. Technical Specifications as laid down in RFP (Appendix IV).
- VI. Instructions to Bidders (Appendix V).
- VII. Designs and Drawings (Appendix VI).
- VIII. Bid submitted by the Successful Bidder.

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.

Subject to the provisions relating to Arbitration specified in Section 3 – General Conditions of Contract of the Contract 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. The Contractor may split this approved price for the purposes of charging appropriate taxes such VAT /Service Tax etc.

Invoices raised for supply portion (with 5 years warranty) & excluding services and with VAT included (as applicable from time to time) would not be liable for deduction of WCT under u/s 40 & 41 of BVAT 2005. Contractor would provide FORM C-III (certificate for non –deduction of tax under section 40 of the BVAT 2005) & CHALLANS as applicable to BREDA for claiming exemption from deduction of WCT, i.e. certificate in FORM C-III covered with supply value. After the issued FORM C-III from sale tax department is produced by the contractor to BREDA then VAT may not be applicable on supply invoices raised by Contractor. In

case of failure to produce to do so, then VAT deduction as applicable would be levied by BREDA & BREDA would issue Form C-II along with proper challan separately in the name of awarded contractor.

TDS deduction as applicable would be levied by BREDA & BREDA would issue Form 16A along with proper challan separately in the name of awarded contractor.

**Article - 5.0 – Contract Price**

The total Contract Price under the Contract shall be **Rs. ....**for..... nos. of systems, inclusive of all the taxes, duties, levies, fees, etc. as specified in Section 3/Appendix-IV – General Conditions of Contract and the Price Bid Schedules forming part of this Contract. The price 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 price 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 General Conditions of Contract. The Contractor may split its invoice into two parts for raising supply & services invoices for the purposes of charging VAT/Service Tax respectively but the total sum of both these invoices shall not exceed Rs.....per system as approved by BREDA.

**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 3 (three) months from the date of issuance of beneficiary list of particular work order and as per the Projects Completion Schedule (Format 8 of the RFP) forming part of the Bid submitted by the Contractor subject to further modifications /changes as may be mutually agreed to between the Owner and the Contractor.

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

IN WITNESS WHEREOF the Parties through their duly authorized representatives have executed these presents on the day, month and year first above mentioned, at BREDA, Patna.

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

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

\_\_\_\_\_  
**(Printed Name)**

\_\_\_\_\_  
**(Printed Name)**

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

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