

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

Expression of Interest (EOI)

For

Installation of 500 watts Rooftop SPV power project and 4 Nos. x 9Watt
W-LED Stand alone Solar Street Light at 25 locations in different police
Stations in District Gaya

EoI No: BREDA/EoI/SPV/PP&SSLS/13/2016-17



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

Tel : 0612-2507734 Fax: 0612-2506572 Website: www.breda.bih.nic.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 National Competitive Bidding (NCB) from the Bidders fulfilling the Eligibility Criteria specified hereunder for design, manufacture, supply, erection, testing, commissioning and warranty with comprehensive maintenance contract (including regular operation and maintenance) for a period of five (5) years of 25 Nos. SPV Power Project (500 Wp Rooftop SPV & 4 Nos. of 9 Watt W-LED Stand alone Solar Street Light) at Different Police Stations in District Gaya" on EPC Basis

- A. 500 Wp Solar PV system comprising equipment/ components, namely, Solar PV modules comprising required number of Poly-crystalline PV modules. Power Conditioning Unit with automatic power sharing with mains to serve the load at the Site, Mounting structures, Batteries and civil structures, earthing and lightning protections. IR/UV protected PVC pipes, cables, junction boxes, other accessories and a control room with Battery bank with ventilation. For control room and battery room the successful bidder shall suitably develop the present available infrastructure. The Plant shall be implemented in accordance with the Technical Specifications contained in Section-5 of the Bidding Documents.
- B. 4 Nos. of 9 W W-LED Solar street lightning system consists of solar PV module, a luminaire, storage batteries, control electronics, interconnecting wire/cables, module mounting poles including hardware and battery box. The luminaire is based on W-LED. The Plant shall be implemented in accordance with the Technical Specifications contained in Section-4 of the Bidding Documents.

The Bidder should meet the following Eligibility Criteria in order to be eligible for participating in this EoI:

- a. **All MNRE channel partner with valid MNRE channel partner certificate**(From MNRE accredited Rating Agency) are allowed. (**Enclosed valid 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 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 (10:00 Hrs.) to 20.02.2017 (18:00 Hrs) (Bihar Renewable Energy Development Agency", 3 rd 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	27.01.2017 at 11.00 Hrs. (Bihar Renewable Energy Development Agency", 3 rd Floor, "Sone Bhawan", Birchand Patel Marg, Patna –

		800001.)
4.	Date/Time for submission of offer/Bid	21.02.2017 up to 16:00 Hrs. (www.eproc.bihar.gov.in)
5.	Submission of Tender fee ,EMD and signed tender document with relevant test report and certificates in Hard Copy/Original	23.02.2017 at 15:00 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	27.02.2017 at 16:00 Hrs. (www.eproc.bihar.gov.in)
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 1,00,000.00 (INR One Lakh only) in form of a DD from any Nationalized /Scheduled Commercial Bank.

- Bidders are required to submit the documentary proof for the qualifications mentioned above.**
- 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.
- Consortium, Joint Venture/Business partnership is not allowed.
- 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)**
- The bidders are required to submit Envelope I containing Cost of Bidding document and Envelope II containing EMD and Envelope III containing signed tender document, all in a forth envelop i.e. Envelope 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 **Empanelment for Rate Contract for Design, Supply, Distribution and Comprehensive Maintenance (for 5 years) of 500 watts Rooftop SPV power project and 4 Nos. x 9 Watt W-LED Stand alone Solar Street Light at 25 locations in different police Stations in District Gaya.** 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.**
- The RFP document containing the project profile, invitation for qualification and criteria for evaluation may be obtained from the website: www.eproc.bihar.gov.in.
- 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.
- Detailed NIT/EOI can be seen of website- www.breda.bih.nic.in or www.eproc.bihar.gov.in.
- 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 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.
- BREDA will not be responsible, in case of any delay, due to any reason whatsoever, in receipt of Bid Documents by the Bidders.
- 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.

12. 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.
13. 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.
14. The detail of the bidding process and summary of the scope of construction works for the project is included in the EoI document.

15. Essential Requirement

- In the unlikely event of the server for 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, Technical bid, Financial bid etc., in the online standard formats given for respective tenders in e-Procurement website (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 along with relevant test certificates & reports as mentioned in technical specification in Section 4 in hard copy at the following address:

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

Tel : 0612-2507734 Fax: 0612-2506572, Website: 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**

SECTION - 1

INSTRUCTIONS TO BIDDERS

1.1 Scope of Work

Installation of 500 watts Rooftop SPV power project and 4 Nos. x 9 Watt W-LED Stand alone Solar Street Light at 25 locations in different police Stations in District Gaya in the state of Bihar.

- a. All the expenditure to be incurred for the Comprehensive Maintenance Contract (including Regular Operation and Maintenance (O&M) of the system for the period of 5 years from the date of commissioning shall be borne by the developer.
- b. 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 system.
- c. The system must be guaranteed against any manufacturing/ design/ installation defects for a minimum period of 5 years.
- d. 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.
- e. 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 center at developer's cost. 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.

1.1.1 500 Wp Solar PV system comprising equipment/ components, namely, Solar PV modules comprising required number of Poly-crystalline PV modules. Power Conditioning Unit with automatic power sharing with mains to serve the load at the Site, Mounting structures, Batteries and civil structures, earthing and lightening protections. IR/UV protected PVC pipes, cables, junction boxes, other accessories and a control room with Battery bank with ventilation. For control room and battery room the successful bidder shall suitably develop the present available infrastructure. The Plant shall be implemented in accordance with the Technical Specifications contained in Section-4 of the Bidding Documents.

1.1.2 4 Nos.of 9 W W-LED Solar street lightning system consists of solar PV module, a luminaire, storage batteries, control electronics, interconnecting wire/cables, module mounting poles including hardware and battery box. The luminaire is based on W-LED. The Plant shall be implemented in accordance with the Technical Specifications contained in Section-4 of the Bidding Documents.

Site Details for 25 Nos. of SPV Power Projects (500 watts Rooftop SPV & 4 Nos.Of 9Watt W-LED Stand alone Solar Street Light) installed at Different Police Stations in District Gaya

Sr. No.	Project Location
1	Police Centre, Gaya
2	Alipur Police Station

3	Amas Police Station
4	Atri Police Station
5	Banke Bazar Police Station
6	Barachatti Police Station
7	Bathani Police Station
8	Belaganj Police Station
9	Bodh Gaya Police Station
10	Buniyadganj Police Station
11	Delha Police Station
12	Dobhi Police Station
13	Dumariya Police station
14	Fatehpur Police Station
15	Gurua Police Station
16	Khizarsarai Police Station
17	Koch Police Station
18	Mufassil Police Station
19	Parraiya Police Station
20	Roshangunj Police Station
21	Sherghati Police Station
22	Thamamgunj Police Station
23	Tekari Police Station
24	Wazirganj Police Station
25	Koti Police Station

1.2 Cost of Bidding

1.2.1 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.

1.3 Clarifications and Amendments

1.3.1 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.

1.3.2 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.

1.3.3 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.

1.4 Language of Bid

- 1.4.1 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.

1.5 Period of Validity of Bids

- 1.5.1 Bids shall remain valid for a period of 180 days from the date of opening of financial Bid. A Bid valid for a shorter period shall be rejected by the BREDA as non responsive.
- 1.5.2 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.

1.6 Bid Security

- 1.6.1 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).
- 1.6.2 The Bid Security shall be in the form of a DD from any Nationalized/Scheduled Commercial Bank.
- 1.6.3 Any Bid not accompanied by prescribed Bid Security shall be rejected by BREDA as non-responsive.
- 1.6.4 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.
- 1.6.5 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.
- 1.6.6 No interest will be paid to the bidder for any type of money kept with BREDA.

1.7 Deviations to Commercial Conditions

- 1.7.1 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.

1.8 Basis of Price

- 1.8.1 The price quoted by the Bidders shall be fixed and firm for the duration of the Contract and shall include all taxes, CST, VAT, transportation& delivery charges, duties, levies etc.including the service tax. 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, transportation, delivery, distribution of the systems/equipment. This includes all requirements under the Contractor’s responsibilities for testing of the system/equipments 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 monthly report along with a consolidated 12 months report of the system with a copy of the service log book as mentioned in **Clause 3.5(ii)** along with the invoice for O&M.

1.9 Signing, Sealing and Submission of Bids

- 1.9.1 BID shall be submitted at BREDA office in hard copy with complete signed documents and requisites such as MNRE certificate, test certificates, reports etc.
- 1.9.2 **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. Envelope 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 **Empanelment for Rate Contract for Design, Supply, Distribution and Comprehensive Maintenance (for 5 years) of 500 watts Rooftop SPV power project and 4 Nos. x 9 Watt W-LED Stand alone Solar Street Light at 25 locations in different police Stations in District Gaya.** 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.**
- 1.9.3 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 Bid Opening

- 1.10.1 The Financial Price Bids of those Bidders whose 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.
- 1.10.2 The BREDA will open the Financial 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)

1.11 Bids Evaluation Procedure

- 1.11.1 Financial Price Bids shall be evaluated in the manner as specified in Bids Evaluation Procedure.

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

- 1.12.1 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.

1.13 Award of Contract

- 1.13.1 Subject to Clause 1.12, BREDA shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated Bid and is substantially responsive to the Bidding Document.
- 1.13.2 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.
- 1.13.3 BREDA shall issue Notification of Award of the Contract to the Successful Bidder with a copy thereof and the Successful Bidder 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.

- 1.13.4 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 Signing of Contract

- 1.14.1 As soon as possible after the issue of Notification of Award to the Contractor by BREDA, BREDA shall send to the Successful Bidder the Contract Agreement provided in the Bidding Document.

- 1.14.2 Within seven (7) days of receipt of the Contract Agreement, the Successful Bidder shall sign and date the Contract Agreement and return it to BREDA.

1.15 Effective Date of Contract

- 1.15.1 The Contract shall become effective from the date of issue of Notification of Award (NOA) to the Successful Bidder.

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 months time from the date of issue of work order (i.e. 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 effective date of work order issued, 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 district authority/Director, BREDA.* Once the maximum is reached, BREDA may consider termination of the contract.

The SLA (service level agreement) must be signed by the bidder at the time of submission of the bid. In Service level agreement bidder will give Name and full contact detail in case of any complains along with response time. It should be followed by a hierarchy mentioning contact detail of superior/other person with response time if level one person does not response within given time. This hierarchy at least contains three levels with response time of every level. *A penalty of INR 500/- per day will be imposed on bidder after 7 days from the day it was informed about the defect/rectification till the same is rectified for Solar system(power plant/Street light).*

1.17 Contract Performance Guarantee

- 1.17.1 The Bidder shall furnish Contract Performance Guarantee valid for defect liability period plus 180 days for the amount and in the form as specified in the General Conditions of Contract

SECTION – 2

BIDS EVALUATION PROCEDURE

2.1 Evaluation of Financial 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 may 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, 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) Any other relevant factors, if any, that the BREDA deems necessary or prudent to take into consideration.
 - (c) 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/District Authority**
- (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

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” means design, supply, distribution and comprehensive maintenance (for 5 years) in anywhere in the state of Bihar for Solar Power Plant & Street light.
- (r) “Site” or “location”, means in locations in Gaya district as mentioned in RFP.
- (s) “Written” or “In Writing” means handwritten, typewritten, printed or electronically made, and resulting in a permanent record
- (t) “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 including 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, lightning arrestor, Structures wind load bearing capacity certificate, GI certificate for Module Mounting Structures(MMS)), and other applicable certificates as mentioned in the technical sheet for poles, led, street lights etc, 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 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. The bidder is also required to submit a consolidated data sheet stating the details as mentioned below:

Sr. No.	District	Name of the police station	Address with contact No.	Serial No. of the Inverter	Serial No. of the Modules	Serial No. of the Street Light	Photograph of the police station

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 bidders are required to submit all the required test reports/certificates & documents for the release of payments failing in doing so, no claims for payments will be entertained.

3.5 Supply, Erection, Testing and Commissioning of Plant

The Contractor shall Design, manufacture, supply, erect, test and commission the Plant which shall include:

- (i) Solar PV system comprising equipment/ components, namely, Solar PV modules comprising required number of Poly-crystalline PV modules. Power Conditioning Unit with automatic power sharing with mains to serve the load at the Site, Mounting structures, Batteries and civil structures, earthing and lightening protections. IR/UV protected PVC pipes, cables, junction boxes, other accessories and a control room with Battery bank with ventilation. For control room and battery room the successful bidder shall suitably develop the present available infrastructure. The Plant shall be implemented in accordance with the Technical Specifications contained in Section-5 of the Bidding Documents.
- (ii) Solar street lightning system consists of solar PV module, a luminaire, storage batteries, control electronics, interconnecting wire/cables, module mounting poles including hardware and battery box. The luminaire is based on W-LED. The Plant shall be implemented in accordance with the Technical Specifications contained in Section-5 of the Bidding Documents.
- (iii) Service centre should be opened in Gaya with trained technicians and sufficient numbers of critical components should be present there.

- (iv) 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

- (v) 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.

3.6 Contract Performance Guarantee/Security

- (i) The Contractor shall provide to BREDA within 14 (fourteen) days of issue of Work Order, the Contract Performance Guarantee in the form of an 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 Bank/scheduled commercial bank in the form specified in the Bidding Documents.
- (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/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

3.7 Final Acceptance

Upon successful installation & commissioning of the project at site by the Contractor, BREDA shall issue to the Contractor a 'Final Acceptance Certificate' after complete verification and satisfaction of the consumer. 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 eighteen (18) months from the date of satisfactory handover of the system. 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 System and Equipment, materials 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 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 concerning Director, BREDA. Tenderer has to accept the penalty clause failing which rate contract will be considered invalid.

In case the Solar PV power plant and W-LED Solar Street lighting system are not commissioned within completion time period, materials are not supplied within the delivery schedule, the agreement /contract will automatically be deemed to have been lapsed/ cancelled unless extension is granted for beyond completion time period with any decision on liquidated damages by Director, BREDA.

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 for Solar System.

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) In the event of such termination, the Contractor shall be eligible for compensation, equitable and reasonable, dictated by the circumstances prevalent at the time of termination. In such cases, the BREDA's decision shall be final and binding on the Contractor subject to arbitration as provided for in the Contract.

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 brought on to 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 Specifications of Solar Power Plant 0.5 kWp SPV Power Plant

Sr. No	Particulars	Specifications
		0.5 kWp SPV Plant
1	Solar PV Modules	Crystalline Silicon
	A Capacity	500 Wp
	B Make	MNRE approved
	C Module	Minimum 250 Wp
	D No. of SPV Modules	Depends on Module wattage
2	Module Mounting Structure	MS hot dip galvanized with thickness of Galvanization in between 80 micron.
3	Inverter	625 VA (As per IEC 61683, IEC 60068-2)
	Charge Controller	As per the requirement (IEC 62093, IEC 60068-2)
4	Battery tubular gel VRLA	75Ah / 12 V@C/10 x 4nos.
5	Cabling	IEC694 certified and only copper cable.
6	Spares	Set of required fuses, screws & terminals etc. as required.
7	Junction Boxes/Enclosures	IP 65 (for outdoor) / IP 21 (for indoor) IEC 62208
8	GI Pipe Earthing System Conforming	As per IS:3043 – 1966
10	Lightning & Over Voltage Protection	System conforming provisions of IS:3070

All the cables/ wiring system required for distribution of Power generated to the LT panel in each of the specified Police stations shall be in the scope of Bidder.

1.1. PV Modules

- The PV modules used should be manufactured in India as per MNRE guidelines.
- The Photovoltaic modules must be IEC certified which is tested & approved by one of the MNRE authorized and approved test centre's as per relevant and latest IEC standards IEC61215 & IEC61730-1-2.
- Modules shall be guaranteed against manufacturing defects and shall be guaranteed for 90% minimum power for first 10 years and 80% minimum power from eleventh to Twenty fifth years.
- Certificate for module qualification from IEC or equivalent to be submitted as part of the bid offer.
- In case the supplied PV module is not a module of regular production of the manufacturer and does not have certificate as above, then the manufacturer should have the required certification for at least one of their regular modules. Further, the manufacturer should certify that the supplied module is also manufactured using similar material, design and process as that of the certified PV module.

- The power output of the PV module must be reported under standard test conditions (STC) at loading voltage.
I-V curve of the modules should be submitted at the time of system supply. The specified module wattage should be at the applicable load voltage.
- The efficiency of the PV modules should be minimum 14% and fill factor should be more than 70%.
(I-V curve of each PV module with should be submitted)
- The terminal box on the module should have a provision for “Opening” for replacing the cable, if required.
- Identification and Traceability
Each PV module must use a RF identification tag. (This can be inside the laminate)
The following information must be mentioned in the RFID used on each module
 - a) Name of the Manufacturer or distinctive Logo
 - b) Model or Type No.
 - c) Serial No.
 - d) Year of make
 BREDA logo should be incorporated inside the module.

1.2. Mounting Structure

- The structure design shall be appropriate and innovative and must follow the existing structure and profile. The bidder shall offer module mounting structure of hot dip Galvanized system with 5 year workmanship warranty as per their design/ economics. Galvanizing should be as per ASTM Standard (A123) & as per IS Standard (IS5909).
- The mounting steel structure shall be as per latest BIS 2062 (amended up to date) and galvanization of mounting structure shall be in compliance of BIS 4759 (amended up to date).
- The modules support structure shall be mild steel, hot dipped galvanized (80 micron) for holding the PV modules. The size of angle iron should not be less than 40x40x5 mm.
- Each panel frame structure shall be so fabricated as to be grouted on ground or roof on its legs. It will withstand severe cyclone/ storm with the speed of 150 Km/Hr.
- Each panel frame shall be complete with a weatherproof junction box as per the relevant BIS specifications, where the module terminals shall be interconnected and output taken.
- Nut & bolts, supporting structures including Module Mounting Structures shall have to be adequately protected from atmosphere corrosion and weather prevailing in the area.
- All fasteners shall be made up of stainless steel of grade SS 304.
- The array structure shall be grounded properly using maintenance free earthing kit.
- The structure should be designed to allow easy replacement of any module.
- Regarding Civil Structure the bidder need to take care of the load bearing capacity of the roof & need arrange suitable structures based on the quality of roof.
- The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.

1.3. Junction Boxes (JBS):

- All boxes shall be fabricated/ cast from metal sheets/ cast aluminum and the boxes shall conform to IP65/IP20 protection class as applicable. Bidder shall have to indicate material of manufacture of all outdoor/indoor boxes and confirm compliance with IP 65/IP20
- The junction boxes shall be dust and waterproof and made of thermo-plastic. The terminals will be connected to copper lugs or bus bar of proper sizes. The junction boxes will have suitable cable entry points fitted with cables glands. Suitable markings shall be provided on the

lugs or bus bar for easy identification and cable ferrules will be fitted at the cable termination points for identification. Each main junction box shall be fitted with appropriate rating blocking diode. The junction boxes shall be of reputed make.

The junction boxes shall have suitable arrangement for the followings:

- Combine groups of modules into independent charging sub-arrays that will be wired into the controller.
- Provide arrangement for disconnection for each of the groups.
- Provide a test point for each sub-group for quick fault location.
- To provide group array isolation.
- The rating of the JBS shall be suitable with adequate safety factor to inter connect the Solar PV array.

1.4. Battery Bank:

- There will be one battery bank comprising of appropriate capacity (12 V, 75 AH@C/10 x 4nos.) for respective SPV Power Plant. The batteries should be of Gel Type only and shall have long service life.
- The cells should confirm IEC61427/ IS 15549 / IS 13369 and as per specification shall be provided.
- Approval: Batteries shall have to be approved by MNRE approved test centers.
- Service Life: Should perform satisfactory for a minimum period of 5 years under operating conditions as mentioned.

1.5. Inverter with charge controller:

Description	Value
Capacity & units	(625VA as per capacity of SPV)
Nominal AC output voltage and frequency	220 V, 1- Phase, 50 Hz
Accuracy of AC voltage control	+/- 1%
Output frequency	50 Hz
Accuracy of frequency control	+/- 0.1%
Maximum Input DC Voltage	Based on Inverter proposed
Protection of Enclosure	IP65 for Outdoor IP20 for Indoor
Operating Temperature range	Up to 55°C
Inverter charge controller Efficiency	>80%
THD	<3%

Salient features of the Charge Controller shall be as follows:

Switching elements: IGBT

Type of Charger: PWM

Input: From Solar PV array

Output Voltage: Suitable for charging nominal battery bank from respective capacity of SPV array.

Protections: Short Circuit, Deep Discharge, Input Surge Voltage, Over Current (load), Battery Reverse Polarity, Solar array reverse polarity.

Indication : String 'ON', Main 'ON', Charging 'ON', 80% Charged, 100% Charged, Charger Overload, Battery On Trickle.

Battery disconnected / Fault Battery Reverse Polarity, Low Solar Power, System Fault and Charger over Temperature and Input Over / Under Voltage (for AC).

1.6. Danger plates:

Bidder shall provide at least 8 Danger Notice Plates of 200 mm X 150 mm made of mild steel sheet, minimum 2 mm thick and vitreous enameled white on both sides and with inscription in signal red color on front side as required. The inscription shall be in English and local language. Out of eight, four danger notice shall have to be provided at PV Yard & Four-danger notice at Control Room & Battery room.

1.7. Lightning & Over Voltage Protection System:

The SPV power plant should be provided with Lightning and over voltage protection, connected with proper earth pits. The main aim of over voltage protection is to reduce the over voltage to a tolerable level before it reaches the PV or other sub-system components.

The source of over voltage can be lightning or other atmospheric disturbance.

The lightning Conductors shall be made of 25 mm diameter 4000 mm long GI spike as per provisions of IS 2309-1969. Necessary concrete foundation for holding the lightning conductor in position to be made after giving due consideration to maximum wind speed and maintenance requirement at site in future. The lightning conductor shall be earthed through 20 mm X 3 mm thick GI flat earth pits/earth bus made with 25 mm X 5 mm GI flats.

1.8. Earthing Systems:

The Earthing for array and distribution system & Power plant equipment shall be made with GI pipe, 4.5 m long 40 mm diameter including accessories and providing masonry enclosures with cast iron cover plate having locking arrangement, watering pipe using charcoal or coke and salt as required as per provisions of IS:3043. Necessary provision shall be made for bolted isolating joints of each Earthing pit for periodic checking of earth resistance.

Each array structure of the SPV yard shall be grounded properly. The array structures and the lightning conductors are to be connected to earth through 25 mm X 5mm GI strip.

The inverters and battery charger and all equipment inside the control room and battery room to be connected to earth through 25 mm X 5mm tinned copper strip including supplying of material and soldering. As earth bus is provided inside the control room with 25 mm X 5mm tinned copper strip.

In compliance to Rule 61 of Indian Electricity Rules, 2004 (as amended up to date), all non-current carrying metal parts shall be earthed with two separate and distinct earth continuity conductors to an efficient earth electrode

1.9. AC Distribution Panel Board:

- The AC Distribution Board shall consist of the components as per designed Inverter. All boxes shall be fabricated/ cast from metal sheets/ cast aluminum and the boxes shall conform to IP65/IP20 protection class. Bidder shall have to indicate material of manufacture of all outdoor/indoor boxes and confirm compliance with IP 65/IP20

1.10. QUALITY AND WARRANTY

- i. The SPV power plant (including the battery) will be warranted for a period of five years from the date of supply.
- ii. The PV module(s) will be warranted for a minimum period of 25 years from the date of supply. The PV modules must be warranted for their output peak wattcapacity, which should not be less than 90% at the end of Ten (10) years and 80% at the end of Twenty five (25) years.
- iii. The Warranty Card to be supplied with the system must contain the details of the system.

1.11. OPERATION and MAINTENANCE MANUAL

An Operation, Instruction and Maintenance Manual, in English and the local language, should be provided with the Solar PV power Plant. The following minimum details must be provided in the Manual:

- Basic principles of Photovoltaic.
- A small write-up (with a block diagram) on Solar PV Power Plant - its components, PV module, battery, electronics and luminaire and expected performance.
- Type, Model number, Voltage & capacity of the battery, used in the system.
- The make, model number, country of origin and technical characteristics of equipments
- About Charging and Significance of indicators.
- Clear instructions about erection & mounting of PV module (s).
- Clear instructions on regular maintenance and trouble shooting of the SPV power plant and equipments
- DO's and DONT's.
- Name and address of the contact person for repair and maintenance, in case of non functionality of the SPV Power plant and equipments
- Other additional details

2. **Technical specifications for 9 Watt W- LED BASED STAND ALONE SOLAR STREET LIGHTING SYSTEMS:**

A stand alone solar photovoltaic street lighting system (SLS) is an outdoor lighting unit used for illuminating a street or an open area. The Solar Street Lighting System consists of solar photovoltaic (SPV) module, a luminaire, storage battery, control electronics, inter-connecting wires/cables, module mounting pole including hardware and battery box. The luminaire is based on White Light Emitting Diode (W-LED), a solid state device which emits light when electric current passes through it. The luminaire is mounted on the pole at a suitable angle to maximize illumination on the ground. The PV module is placed at the top of the pole at an angle facing south so that it receives solar radiation throughout the day, without any shadow falling on it. A battery is placed in a box attached to the pole. Electricity generated by the PV module charges the battery during the day time which powers the luminaire from dusk to dawn. The system lights at dusk and switches off at dawn automatically.

2.1. BROAD PERFORMANCE SPECIFICATIONS

PV Module	40 Wp
Battery	Tubular GEL VRLA ,12V- 40 AH @ C/10
Light Source	White Light Emitting Diode (W-LED)
Light Output	Minimum 15 Lux when measured at the periphery of 4 meter diameter from a height of 4 meter. The illumination should be uniform without dark bands or abrupt variations, and soothing to the eye. Higher light output will be preferred.
Mounting of light	Minimum 4 metre pole mounted above the ground
Electronics Efficiency	Minimum 85% total
Duty Cycle	Dusk to dawn
Autonomy	3 days or Minimum 42 operating hours per permissible Discharge

TECHNICAL DETAILS

PV MODULE

- i. Indigenously manufactured PV module should be used.
- ii. The PV module should have crystalline silicon solar cells and must have a certificate of testing conforming to IEC 61215 Edition II / BIS 14286 from an NABL or IECQ accredited Laboratory.
- iii. The power output of the module(s) under STC should be a minimum of 40 Wp at a load voltage* of 16.4 ± 0.2 V.
- iv. The open circuit voltage* of the PV modules under STC should be at least 21.0 Volts.
- v. The module efficiency should not be less than 12%.
- vi. The terminal box on the module should have a provision for opening it for replacing the cable, if required.
- vii. There should be a Name Plate fixed inside the module which will give:
 - a. Name of the Manufacturer or Distinctive Logo.
 - b. Model Number
 - c. Serial Number
 - d. Year of manufacture

2.2. BATTERY

- i) Tubular Gel VRLA type
- ii) The battery will have a minimum rating of 12V, 40 Ah at C/10 discharge rate.
- iii) 75 % of the rated capacity of the battery should be between fully charged and load cut off conditions.
- iv) Battery should conform to the latest BIS/ International standards

2.3. LIGHT SOURCE

LIGHT SOURCE

- i. The light source will be of White Light Emitting Diode W-LED.
- ii. The color temperature of W-LED used in the system should be in the range of $5500^{\circ}\text{K} - 6500^{\circ}\text{K}$.
- iii. W-LED (s) should not emit ultraviolet light.
- iv. The light output from the W-LED should be constant throughout the duty cycle.
- v. The housing should be suitable for indoor as well as outdoor use.
- vi. Light source housing box should be weather proof, insect proof with moisture resistance rubber fitting assembly suitable for outdoor use (IP65) with a reflector on its back.
- vii. The temperature of LED should increase not more than 10° above ambient temperature. This condition should be complied even after two hours of operation at its maximum operation voltage (i.e. Just before over voltage cut off).
- viii. The white LED should be of high quality and should stand for minimum 10000 hours. If the luminary fails/ need repair in LED/ electronics the whole should be replaced with the new one within the warranty period of 5 years.
- ix. The make, model number, country of origin and technical characteristics of white LEDs used in the lighting system must be furnished.

Others

- i. Housing: Housing made up of die cast Aluminum with water and dust protection.
- ii. Finish: Epoxy Powder Coated after phosphor chromate treatment.
- iii. Optics: Spherical Lens made up of glass
- iv. Heat Sink: Made Up of extruded aluminum sheet.
- v. Mounting: Suitable for lateral mounting on arms with clamps.
- vi. Wire: Wire should be made up of copper only.

2.4. ELECTRONICS

- i. Efficiency of the whole electronic system should be at least 85%.
- ii. Electronics should have temperature compensation for proper charging of the battery throughout the year.
- iii. The light output should remain constant with variations in the battery voltages.
- iv. The idle current should be less than 1 mA.
- v. The PCB containing the electronics should be capable of solder free installation and replacement.
- vi. Necessary lengths of wires/ cables, switches suitable for DC use and other protections should be provided.
- vii. Adequate protection is to be incorporated for “No Load” condition, e.g. when the lamp is removed and the Plants is switched ON.
- viii. The system should have protection against battery overcharge and deep discharge conditions
- ix. The load reconnect should be provided at around 80% of the battery capacity status.
- x. Adequate protection should be provided against battery reverse polarity.
- xi. A fuse should be provided to protect against short circuit conditions.
- xii. Protection for reverse flow of current through the PV module should be provided. During the charging, lamp cannot be switched “ON”.
- xiii. Cable should conform the IEC 694, IS 1554 (Pt-1, Pt-2), IS: 7098-1988, IS 9968 (Pt-1)-1988, IS: 9857/1990, IEC: 60332-1-3, IEC 60189-1 standard and UV light resist.
- xiv. The wire used for the system shall be made up of copper only.

2.5. ELECTRONIC PROTECTIONS

- i. The system should have protection against battery overcharge and deep discharge conditions.
- ii. The numerical values of the cut off limits must be specified, while submitting the samples for the testing purposes.
- iii. Fuses should be provided to protect against short circuit conditions.
- iv. A blocking diode should be provided as part of the electronics, to prevent reverse flow of current through the PV module(s), in case such a diode is not provided with the PV module.
- v. Full protection against open circuit, accidental short circuit and reverse polarity should be provided.
- vi. Adequate protection is to be incorporated under no load conditions, e.g. when the lamps are removed and the system is switched ON.

- vii. Electronics should operate at 12 V and should have temperature compensation for proper charging of the battery throughout the year.
- viii. The W-LED driver circuit should be based on constant voltage, constant current, and high frequency technology.
- ix. The component used in LED driver circuitry should be highly reliable of reputed make and efficient. The make, model number, country of origin and technical characteristics of white LEDs used in the lighting system must be furnished.

2.6. MECHANICAL COMPONENTS

- i. The frame structure of module should have provision to adjust its angle of inclination to the horizontal between 0 and 45°C, so that it can be installed at the specified tilt angle.
- ii. The pole should be made of hot dip Galvanized pipe (80 micron). The pole should be of minimum 4 mm thickness & diameter of minimum 110mm throughout the length. It must be of dimension & capacity to withstand the total weight of the module, battery & lighting structure. The steel tower/pole should be of suitable thickness to withstand almost 150Km/hour of wind speed for Street lighting System.
- iii. The height of the pole should be at least 4 meters above the ground level and 1m below the ground level, after grouting and final installation. The mounting pole should be grouted at least 1 meter below ground with M25 grade RCC 1:1:2 having specified IS code reinforcement to provide required strength of 300*300*1300mm around the pole with 1 meter grouting.
- iv. The pole should have the provision to hold the luminaries.
- v. All components and hardware should be theft protected. All the nuts & bolts to be used for the system should be lock nut & bolt (anti- theft nut & bolt).
- vi. All wiring and fixtures that are mounted outside must be resistance should be corrosion resistance.
- vii. Bird Spike shall be provided on pole.
- viii. The assembly lowering arrangement for lights for repairing and maintenance should also be incorporated.
- ix. A vented galvanized iron box of atleast 3mm thickness with acid proof corrosion resistance for housing the storage battery outdoors should be provided.
- x. The battery box should have front opening provision & locking arrangement.
- xi. Battery lug/thimble should be properly gelled and properly wound with insulating sleeve.
- xii. The quality should be of high standards to withstand the life period. If defect arises in the guarantee period, same is to be (mandatory) replaced.
- xiii. The wire used for the system should be made of copper only.
- xiv. Lightning arrestor should be provided at the top of pole in such a way that the shadow does not fall on the solar panel.
- xv. The pole and the light fixtures should have ISI mark punched in the pipe and the fixture itself respectively.
- xvi. Drawings of installation of the system as proposed by the bidder must be provided during the submission of the tender.

2.7. INDICATORS

The system should have two indicators, green and red.

The green indicator should indicate the charging under progress and should glow only when the charging is taking place. It should stop glowing when the battery is fully charged.

Red indicator should indicate the battery “Load Cut Off” condition.

2.8. QUALITY AND WARRANTY

- i. The street lighting system (including the battery) will be warranted for a period of five years from the date of supply.
- iv. The PV module(s) will be warranted for a minimum period of 25 years from the date of supply. The PV modules must be warranted for their output peak wattcapacity, which should not be less than 90% at the end of Ten (10) years and 80% at the end of Twenty five (25) years.
- v. The Warranty Card to be supplied with the system must contain the details of the system.

2.9. Test Certificates

It is mandatory for bidder to have valid confirmation test report of W-LED solar street lighting system from any approved MNRE/NABL accredited and approved test centre issued for specifications mentioned in RFP.

2.10. OPERATION and MAINTENANCE MANUAL

An Operation, Instruction and Maintenance Manual, in English and the local language, should be provided with the Solar Street Lighting System. The following minimum details must be provided in the Manual:

- Basic principles of Photovoltaic.
- A small write-up (with a block diagram) on Solar Street Lighting System - its components, PV module, battery, electronics and luminaries and expected performance.
- Type, Model number, Voltage & capacity of the battery, used in the system.
- The make, model number, country of origin and technical characteristics (including IESNA LM-80 report) of W-LEDs used in the lighting system.
- About Charging and Significance of indicators.
- Clear instructions about erection of pole and mounting of PV module (s) and lamp housing assembly on the pole.
- Clear instructions on regular maintenance and trouble shooting of the Solar Street Lighting System.
- DO's and DONT's.
- Name and address of the contact person for repair and maintenance, in case of non functionality of the solar street lighting system.

3. Comprehensive Operation & Maintenance contract

Comprehensive Operation and Maintenance of SPV Power Plants (SPVPP) & Solar Street lighting system (SSLS) installed at site/Location have to be done from the day of commissioning of SPVPP & SSLS for consecutive five years. A thorough monitoring of operational status of the installed SPVPP & SSLS has to be done once in a month and the report has to be maintained. Apart from the monthly

monitoring, regular periodical maintenance of SPVPP & SSLS has to be done with reference to capacity of SPVPP & SSLS.

Note:

1. Each system should have a **BREDA logo** along with a “**Not for Sale**” tag attached to it.
2. Each system should have a unique serial no. engraved on the system. The same should be maintained by the bidder and be submitted at BREDA.

The serial no. for the street light system should be as follows:

- BREDA/SSLS/2016-17/XXXXXXXX for Solar Street lights

Note:

1. MNRE approved model shall only be acceptable.
2. The bidders must submit the test certificates as provided by the approved MNRE/NABL accredited test labs.

FORMATS FOR SUBMITTING EOI& CHECK LIST

Format 1

Check List of Information/Documents Attached

Sr. No.	Particulars of Information/ Document	Format /Annexure Number	Yes/No.
1	This Check List	Format 1	
2	Covering Letter	Format 2	
3	Letter of Authorization/ Power of Attorney	Format 3	
4	Project Completion Schedule from the date of issue of work order (zero date)	Format 4	
5	Format of Contract Performance Guarantee	Format 5	To be furnished within the period specified in the Bidding Documents after the signing of the Contract
6	Form of Contract Agreement (may be changed)	Format 6	To be signed by BREDA and the Successful Bidder within the period specified in the Bidding Documents after the issue of Notification of Award
B. Documents to be attached with the Bid as Annexure in the same order as mentioned below otherwise submitted bid may be summarily rejected			
1	Attested copies of the valid Registration Certificates of CST/State VAT/TIN and other applicable tax registration certificate	Annexure 1	
2	Signed and stamped copy of the Bidding Document including amendments/clarifications, if any, issued by the BREDA.	Annexure 2	
3	Undertaking for Bidder should not have been 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 3	
4	Valid MNRE Credit rating channel partner certificate	Annexure 4	
5	Valid Test certificates for the complete Solar Street light system	Annexure 5	

Sr. No.	Particulars of Information/ Document	Format /Annexure Number	Yes/No.
	by MNRE approved lab or NABL accredited test centre as mentioned in RFP		
6	Valid Test certificates for the Solar Inverter for 500Wp(625VA) solar powerplant by MNRE approved lab or NABL accredited test centre as mentioned in Rfp	Annexure 6	
7	Valid Test certificates for the Solar Batteryfor 500Wp solar power plant by MNRE approved lab or NABL accredited test centre as mentioned in Rfp	Annexure 7	
8	Valid Test certificates for the Solar Moduleused for 500Wp solar power plant by MNRE approved lab or NABL accredited test centre as mentioned in Rfp	Annexure 8	

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),
3rd Floor, “Sone Bhawan”,
Birchand Patel Marg,
Patna – 800001 (Bihar)**

Sub: Design, manufacture, supply, erection, testing, commissioning and warranty with comprehensive maintenance contract (including regular operation and maintenance) for a period of five (5) years for “25 Nos. SPV Power Project (500 watts Rooftop SPV & 4 Nos. of 9Watt W-LED Stand alone Solar Street Light) at Different Police Stations in District Gaya” on EPC Basis.

EOI No: _____ Dated _____

Sir,

In response to your above referred NCB, we hereby submit our Bid for “25 Nos. SPV Power Project (500 watts Rooftop SPV & 4 Nos. of 9Watt W-LED Stand alone Solar Street Light)” at specified locations 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 Bank Guarantee in the prescribed Format.

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),
3rd Floor, “Sone Bhawan”,
Birchand Patel Marg,
Patna – 800001 (Bihar)**

EOI 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:

Signature _____
Seal of Bidder Company
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

Project Completion Schedule

Zero Date (Date of Issue of Work Order)

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

Seal of Bidder Company

Signature _____

Name _____

Designation _____

Date _____

Format 5

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),
3rd 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 **design, manufacture, supply, erection, testing and commissioning comprehensive maintenance contract for a period of five (5) years of** ” 25 Nos. SPV Power Project (500 Wp Rooftop SPV & 4 Nos. 9 Watt W-LED Stand alone Solar Street Light) at Different Police Stations in District Gaya“ 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 a 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 tillBREDA 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

Signature _____

Seal of the Bank

Name _____

Designation _____

Format 6

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 3rd 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 andhaving 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 **design, manufacture, supply, erection, testing and commissioning comprehensive maintenance contract for a period of five (5) years of “25 Nos. SPV Power Project (500 Wp Rooftop SPV & 4 Nos. 9 Watt W-LED Stand alone Solar Street Light) at Different Police Stations in District Gaya”** 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 (As per 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)