

BID DOCUMENT

For

White LED-based Solar Street Lighting System

NIB No. 9/LEDSLS/2021-22/MANIREDA

Under

INTERIOR BORDER AREA DEVELOPMENT PROGRAMME,
CHANDEL DISTRICT

Manipur Renewable Energy Development Agency (MANIREDA)

2nd Floor, South Block, Secured Office Complex, Near 2nd M.R. Gate, Imphal-Dimapur
Road, Imphal-795001

Ph. : 0385-2444027,2058535, Fax : 0385-2444027,

e-mail : manireda99@yahoo.com

Website : www.manireda.com

(This tender document is having 25 pages including this page)

Cost of bid document: Rs 1,000/-

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Office of the
MANIPUR RENEWABLE ENERGY DEVELOPMENT AGENCY (MANIREDA)
(An Autonomous Govt. Institute under the Power Department)
2nd Floor, South Block, Secured Office Complex, Near 2nd M.R. Gate, Imphal-Dimapur Road, Imphal-795001

NOTICE INVITING BID

NIB No.: 9/LEDSLS/2021-22/MANIREDA dated: 15/03/2022.

Tenders are invited from reputed firms for 'Design, Supply, Erection, Testing and Commissioning of 50 Nos. of Solar LED SLS as per approved specification of MANIREDA for installation at three interior border villages of Chandel District, Manipur'.

Last date & time for submission of Tender	Date & time for opening of Tender
01/04/2022 upto 12.00 Noon	01/04/2022 at 1.00

Tender Document can be had from the office MANIREDA during office hours only.

Prospective bidders are requested to remain updated for any amendments/modifications/cancellation, etc. in the bid document conditions/terms at the office of MANIREDA from time to time. No separate notifications will be given for such amendments/modifications in the print media (press) or intimated to the bidders separately.

Director, MANIREDA, reserves the right to reject any or all tenders without assigning any reasons thereof.

Sd/-
(W. Suraj Singh)
Director, MANIREDA

2. Bid Details

TENDER FORM NO :.....
ISSUED TO : M/s.....
TENDER FEE DETAILS : Vide Receipt No..... Dt.....
DD No..... Bank.....

SI	Description	Details
1.	Notice Inviting Bid (NIB) No.	9/LEDSLS/2021-22/MANIREDA
2.	Scope of work	Design, manufacture, supply, installation & commissioning including 5(five) years Maintenance and Performance Warrantee Contract (MPWC) of White LED based Solar Street Lighting Systems (SSLs) at Chandel District of Manipur State. Estimated quantity to be purchased is 50(fifty) sets. The quantity mentioned above is tentative & is subject to increase or decrease depending on the actual requirement at the time of placing order and resources available and as per discretion of MANIREDA.
3.	Place of issue & submission of bid documents and address for communication	Manipur Renewable Energy Development Agency (MANIREDA), 2 nd Floor, South Block, Secured Office Complex, Near 2 nd M.R. Gate, Imphal-Dimapur Road, Imphal – 795 001 Telefax Fax No. : 0385-2444027 Website : www.manireda.com , E-mail : manireda99@yahoo.com
4.	Period of sale of bid document	Date : From 15 th March, 2022 to 1 st April, 2022. Time : From 10:00 A.M. to 4:00 P.M. on all working days
5.	Last date & time of submission of bids	Date : 1 st April, 2022 Time : Till 12:00 noon (submission of documents after 12.00 noon will not be accepted under any circumstances).
6.	Date & time of opening of Part - I (Technical Bids)	Date : 1 st April, 2022 Time : 1.00 p.m. Venue : Office of the Director, MANIREDA, 2 nd Floor, South Block, Secured Office Complex, Near 2 nd M.R. Gate, Imphal-Dimapur Road, Imphal.
7.	Date & time of opening of Part- II (Price Bids)	Technically qualified bidders will be communicated the date & time of opening of Part-II (Price Bids) by MANIREDA.
8.	Cost of bid document (Non-refundable)	Rs.1,000/- in the form of D.D. favoring Director MANIREDA payable at Imphal.
9.	Earnest Money (Refundable)	Rs. 48,200/- in the form of D. D. favoring Director MANIREDA, payable at any Nationalized bank having branch at Imphal.
10.	Time of completion	Within four (4) months from the date of issue of work order.
11.	Validity of offer	The offer shall remain valid up to 365 days from the due date of submission of offer.
12.	Validity of earnest money	The earnest money shall be submitted by the bidder in the form of demand draft issued by Nationalized bank having branch at Imphal. This Demand Draft shall remain valid for 12 months from the last date of submission of bids and Demand Draft which is extendable up to 1 year.

3. Detailed Notice Inviting Bid (DNIB)

Manipur Renewable Energy Development Agency (MANIREDA)
2nd Floor, South Block, Secured Office Complex, Near, 2nd M.R.Gate,
Imphal-Dimapur Road, Imphal-795001
Ph. : 0385-2444027,2058535, Fax : 0385-2444027, e-mail : manireda99@yahoo.com
Website : www.manireda.com

NIB No. 9/LEDSLS/2021-22/MANIREDA

Date : 15/03/2022

Sub : Design, Manufacture, Supply, Installation & Commissioning, including 5 years Maintenance & Performance Warrantee Contract (MPWC) of 50 sets of White LED based Solar Street Lighting Systems (SSLs) at Interior villages, Chandel District of Manipur, under Interior Border Area Development Programme, Chandel District.

Dear Sir/Madam,

Manipur Renewable Energy Development Agency (MANIREDA), Imphal has the pleasure in inviting offers from eligible Indian bidders for the above work with your best binding price offer as per specifications and terms & conditions mentioned in the bid document. Salient features of the bid document are given below:

1. Bid Document :

1.1 **This bid document comprises of total 18 chapters. In addition, any other documents/ instructions/amendments/revisions issued by MANIREDA to the bidder till the due date of opening of the bids shall also be deemed to be integral part of the bid document. Failure to furnish all the information as per the bid document in every respect will be at the bidder's risk.**

2. Cost of Bid Document :

- 2.1 Bid document can be purchased from MANIREDA office by producing a Demand Draft drawn in favour of "Director, MANIREDA" on any Indian Nationalized Bank/Scheduled Bank, payable at "Imphal" of requisite value, as applicable, during the time and period mentioned in chapter 2 (Bid Details).
- 2.2 Bidders can also download the bid document from MANIREDA website (www.manireda.com and www.manipur.gov.in) and submit the cost of the bid document of requisite value, as applicable along with Part – I (Technical Bid).
- 2.3 Bid applications without the cost of bid document will be rejected.

3. Earnest Money :

- 3.1 The bidder should submit the earnest money in the form of Demand Draft amounting to Rs. 48,200/- requisite value as mentioned in chapter 2 (Bid Details). The Demand Draft shall be made in favour of "Director, MANIREDA" payable at Imphal from any Nationalized bank.
- 3.2 This Demand Draft shall remain valid for 12 months from the last date of submission of bids.
- 3.3 Bidders failing to submit earnest money will be rejected.
- 3.4 The request for adjustment of earlier dues in place of earnest money will not be entertained.
- 3.5 The earnest money shall be returned to all unsuccessful bidders, within thirty days from the date of placement of LOI/LOA to the successful bidder(s).
- 3.6 The earnest money shall be forfeited if –

- a. Any bidder withdraws his bid or deviates from his offer during the validity period.
- b. The successful bidder fails to furnish his acceptance of the Order within 15(fifteen) days of placement of LOI/LOA by MANIREDA.
- c. The bidder fails to successfully complete the work within the stipulated time frame. Delay in completion due to extreme and unavoidable situations will have to get approval from Director, MANIREDA. This approval will also have a cut-off date by which the entire work will have to be completed.

4. Security Deposit / Performance Guarantee :

- 4.1 The successful Bidder, who execute the agreement with MANIREDA for the work tendered, shall have to deposit a security amount equivalent to 2% of total work order value excluding MPWC against work order placed on them. The security deposit may be forfeited in case of non-execution of work against the work order placed.
- 4.2 Security deposit may be deposited in the form of Demand Draft favoring Director, MANIREDA OR Earnest Money would be adjusted to 2% security deposit or refunded the excess amount if the EM happens to be more than 2%.
- 4.4 After two years of satisfactorily installation and commissioning of the work, the security deposit shall be released.

5. Submission of Bids :

- 5.1 Bidders are advised to submit their bids strictly based on the specifications, terms and conditions contained in the bid document and subsequent revisions/amendments, if any.
- 5.2 The bid shall be prepared and submitted by typing or printing in English with indelible black ink on white paper in consecutively numbered pages duly signed by the authorized signatory with company seal affixed on each page. Any part of the bid, which is not specifically signed by the authorized signatory and not affixed with company seal, shall not be considered for the purpose of evaluation.
- 5.3 Original copy of bid document, amendments/revisions to bid document, including minutes of meeting(s), issued by MANIREDA, if any, shall be signed and submitted along with the bid.
- 5.4 All the Proformas must be on the bidder's official letterhead. Any change in wording of the Performa will lead to rejection of the bid application.
- 5.5 The offer shall contain no overwriting except as necessary to correct errors made by bidder. Such corrections, if any, shall be initialed by the person signing the offer.
- 5.6 **Original copy of Bid Document should be submitted with Hard Cover or Spiral Binding otherwise bid will be rejected.**
- 5.7 **The Bid Document without proper paging/ flags of Annexures/details will not be accepted.**
- 5.8 **Offers submitted without attestation will be rejected.**

6. Mode of Submission of Bids :

- 6.1 The Part – I (Technical Bid) and the Part – II (Price Bid) should be sealed in separate envelopes and both these envelopes should be sealed in a third envelope. The Part – II (Price Bid) would be opened for such organizations who qualify in the Part – I (Technical bid).
- 6.2 The Part – I (Technical Bid) should be sealed in an envelope super scribed (i) NIB No.: 9/LEDSLS/2021-22/MANIREDA (ii) Part – I (Technical Bid) (iii) Name and address of the contact person of the bidding firm and (iv) should be addressed to Director, MANIREDA. This envelope should contain the following :

- (i) Cost of bid document (for the bidders who have downloaded the bid document from MANIREDA website) or copy of demand draft/money receipt if purchased from MANIREDA office.
 - (ii) Copy of registration certificate of the firm.
- 6.3 Part – I (Technical Bid) should not contain price of any item. Such cases, even if found anywhere, shall not be given any cognizance.
- 6.4 Part – I (Technical Bid) should be submitted in original plus 1 copy .
- 6.5 The Part – II (Price Bid) should be sealed in an envelope super scribed (i) NIB No.: 9/LEDSLS/2021-22/MANIREDA (ii) Part – II (Price Bid) (iii) Name and address of the contact person of the bidding firm and (iv) Should be addressed to Director, MANIREDA. This envelope should contain the following:
- (i) It should contain only Proforma – 10 duly filled-up in both figures and words and signed with stamp by authorized signatory of the bidder.
 - (ii) In case of any contradictions between the prices mentioned in figures and words, the prices mentioned in words shall be considered final. Also, in case of any arithmetical error in regard to the total amount and individual rates, the individual rates shall be taken as final and the total amount shall be adjusted accordingly.
- 6.6 Part – II (Price Bid) should be submitted in original only.
- 6.7 Both, Part – I and Part – II of the bid document should be sealed in a third envelope. The third envelope should be sealed and super scribed (i) NIB No. 9/LEDSLS/2021-22/MANIREDA (ii) Offer for Supply & MPWC of SSLs under Interior Border Area Development Programme, Chandel District (iii) Name and address of the contact person of the bidding firm and (iv) Should be addressed to Director, MANIREDA.

7.0 Scope of Work :

- 7.1 The scope of work shall be as indicated in the Bid Details.
- 7.2 MANIREDA reserves the absolute rights to distribute the total number of SSLs required to be supplied under the NIB amongst any number of bidders, in the way it deems fit.
- 7.3. MANIREDA reserves the right to award part of the total number of SSLs required at the approved rate to any of the bidders, in the way it deems fit.
- 7.4 MANIREDA reserves the right to amend the scope of work, accept or reject any or all the offers/bids, in part or in full or cancel/withdraw the invitation for bids without assigning any reasons whatsoever and in such case, the bidder/intending bidder shall have no claim arising out of such action.
- 7.5 The Bidder shall carefully check the specifications and shall satisfy himself regarding the technical requirement and completeness of the equipment/system.
- 7.6 Bidder may submit their offer for minimum lot size defined or additional quantities.
- 7.7 Bidder should be capable and agreed to install the SLSs at any part/location in Chandel District. MANIREDA reserves the right to award work/part the work to bidders at any location or assembly constituency at its discretion.

8.0 Price :

- 8.1 The Bidder shall quote price as per Proforma – 10. Price quoted shall be firm & binding and shall not be subject to any variation whatsoever, on any account except for statutory variation on taxes & duties during contractual completion period.
- 8.2 The price should be inclusive of all taxes, duties, levies, incidental charges etc. as on date.

9.0 Terms of Payment :

9.1 Subject to any deductions, which MANIREDA may be authorized to make under the terms of the order, the contract price shall be payable as per general clauses of contract enclosed.

11.0 No Claim or Compensation for Submission of Tender :

11.1 The bidder whose bid is not accepted shall not be entitled to claim any costs, charges, expenses and incidental incurred by him through or in connection with his submission of bid, even though MANIREDA may decide to withdraw the notice inviting bid.

12.0 Eligibility and Qualification Criteria :

12.1 The bidder should be a Registered Firm/Corporation in India of: SPV Cells/Modules or Battery or PV System Electronics/Solar Luminaries (Conforming to relevant National/International Standards)

12.2 Bidder should have Test Certificate conforming to MNRE approved specifications of W-LED Solar Street Lighting System from an authorized testing centers of the MNRE. (Test Certificate should have been issued).

12.3 Cumulative Experience of the Bidder in executing contracts of Solar Photovoltaic Systems/solar luminaries should be Rs. 1.0 Crore in the last 3 years. Supporting documents for proof of experience should be submitted.

12.4 The Bidder should have valid GST registration certificate. A copy of which should be enclosed.

12.5 The Bidder should have registered office/authorized dealer/service network in Manipur as per MVAT Act.- 2005 for smooth execution of MPWC, in place before award of contract.

12.6 Overall Average Annual Turnover of the Firm/ Corporation in the last two financial years should be at least Rs. 0.5 crores. (This must be the individual Firm's turnover and not that of any group of Firms). (A summarized sheet of turnover certified by registered CA should be compulsorily enclosed)

12.7 Bidder should have Test Certificate for at least two of LED Solar Street Lighting System, Solar Water Pumping System or SPV Modules, battery, Electronics/Solar Luminaries, etc. from a MNRE authorized testing centre (Test Certificate should have been issued).

13.0 Other Terms & Conditions :

13.1 Insertion, post-script, addition and alteration shall not be authorization unless confirmed by bidder's signature and stamp.

13.2 Incomplete tender or tenders not submitted as per requirement as indicated in the NIB are likely to be rejected.

13.3 Bidders shall submit their offer strictly as per terms and conditions of the tender document without any deviation.

13.4 If at any time any of the documents/information submitted by the bidder is found to be incorrect, false or untruthful, the bid the resultant order may be summarily rejected/cancelled at the risk of the bidder.

13.5 Failure to furnish all information and documentary evidence as stipulated in the bid document

or submission of an offer that is not substantially responsive to the bid document in all respects shall be summarily rejected.

- 13.6 All bids will be received in duly sealed cover within the due date and time. Bids received after the due date and time is liable for outright rejection.
- 13.7 MANIREDA reserves the right to reject part or whole of the bid/order without assigning any reason thereof postpone the date of receipt and opening of the bids or cancel the bid without bearing any liability, whatsoever, consequent upon such decision.
- 13.8 No postal transaction shall be entertained for obtaining bid documents.
- 13.9 Issuance of bid documents shall not construe that the bidders would be automatically considered qualified.
- 13.10 Attestation of various documents enclosed along with the offer must be done by a Gazetted Officer or Notary Public.
- 13.11 Bid documents are not transferable.
- 13.12 The Bidder should establish registered office/dealer/service network in Manipur for smooth execution of MPWC in place before award of contract.

4. General Terms & Conditions

1.0 Scope of Work :

- 1.1 The Scope of work for W-LED Solar Street Lighting System (SSLs) includes Manufacturing, shop testing, packing & forwarding, transportation, transit insurance, supply, installation(including pole muffing with cement concrete), testing & commissioning including 5 years Maintenance Performance Warrantee Contract (MPWC) of SSLs complete in all respects along with one set of operational instruction cum maintenance manual (in English and local language) for each set and delivery on FOR designated store of MANIREDA and installation & commissioning across the State of Manipur including, demonstration of performance and training at all sites located within the State of Manipur as per the direction of MANIREDA. The list of destinations/sites will be given to the successful bidder by MANIREDA.

2.0 Opening and Evaluation of Bids :

- 2.1 The Part – I (Technical Bids) and Part – II (Price Bids) will be opened on the date and time mentioned in the Bid Details in the office of the **Director, MANIREDA, 2nd Floor, South Block, Secured Office Complex, Near 2nd M.R. Gate, Imphal-Dimapur Road, Imphal**, in presence of bidders or their authorized representatives who choose to attend the meeting. The representative should produce authorization letter to attend the bid opening meeting. The representative who does not produce such authorization will not be allowed to attend the bid opening meeting.
- 2.2 MANIREDA, if required, may at its discretion obtain clarifications on offers by requesting clarifications from any or all the bidders at any time prior to Part – II (Price Bid) opening. Such request for clarification and the response shall be in writing.
- 2.3 MANIREDA shall examine whether the bid is complete in all respects and conform to the stipulated requirement of the technical specifications and tests reports. The bid having material deviation shall be rejected as being non-responsive.
- 2.4 The Part –II(Price Bid) of only those bidders, whose Part – I (Technical Bid) are found acceptable after evaluation, will be opened and evaluated. In case of deviation in the date and time of opening of the Part – II (Price Bid) from what is given in the Bid Detail, the date & time for opening of the Part – II (Price Bid) will be uploaded on MANIREDA website. Bidders are requested to visit the website www.manireda.com regularly and keep themselves informed.
- 2.5 The Part – II (Price Bid) will be opened in the office of **Director, MANIREDA, 2nd Floor, South Block, Secured Office Complex, Near 2nd M.R. Gate, Imphal-Dimapur Road, Imphal**, in the presence of eligible bidders or their authorized representative. The authorized representative will be allowed to attend the price bid opening on production of authorization letter.
- 2.6 The prices shall be evaluated for W -LED based Solar Street Lighting System (SSLs) on the Total Price(P)
 - a. System cost including insurance, GST/VAT, transportation, etc.
 - b. Installation & Commissioning.
 - c. MPWC for 5 years period.
- 2.7 The bidders shall be ranked L1, L2, L3 ...as per the Total Price (P). The Purchase/Tender Committee of MANIREDA will have the discretion to divide the quantity to be supplied among any number of technically qualified bidders at the approved rate. The work order will be issued subject to the acceptance of the bidders to supply at the approved rate.
- 2.8 MANIREDA, if required, may at its discretion extend the scheduled date of opening of Part – II (Price Bid).

3.0 Award of Contract/Work Order :

3.1 The contract/work order shall be awarded to the bidder whose Part – I (Technical Bid) was acceptable and who is selected by the Purchase/Tender Committee of MANIREDA to undertake the work at the approved rate. The contract/work order will be issued in the name of successful bidder, not through its authorized dealer or agent.

4.0 Quantity of Supply :

4.1 The quantity required as given in the Bid Details of Notice Inviting Bid is tentative and is subject to increase or decrease depending upon the actual requirement at the time of placing order and resources available.

4.2 Bidders may submit their offer for minimum lot size and additional quantities as defined in the Bid Details.

4.3 In case any bidder offers less than the minimum lot size their offer will be rejected.

5.0 Effective Date of Contract :

5.1 The effective date of commencement of execution of the order by the selected contractor shall be the date of issue of the LOI/LOA/Purchase Order whichever is earlier.

6.0 Terms of Payment :

6.1 Subject to any deductions which MANIREDA may be authorized to make under the terms of the order, the payments shall be made as per the following terms and conditions :

(a) Mobilization advance upto 50% of the ordered value excluding the cost of installation & commissioning and MPWC shall be released against submission of Demand Draft of equivalent amount from nationalized bank after verification.

OR

50% of the ordered value excluding the cost of installation & commissioning and MPWC for each bill shall be paid against delivery of system in complete set and in good condition. The contractor/firm shall raise bill of 50% of the ordered value after the supply of the complete system at designated store, duly certified by the concerned officer of MANIREDA as per the technical specification and terms and conditions specified in the contract.

(b) 45% of the Contract price including the cost of installation & commissioning (excluding MPWC) shall be paid against duly verified completion report with successful installation and commissioning of the systems after submission of the following documents.

(i) Certificate of delivery of the number of SSLs received by the consignee.

(ii) Location-wise detail of the module, battery & charge controller/luminaires utilization report of SSLs installed.

(iii) Commercial invoice of the supply made in triplicate.

(iv) Copy of delivery challan/transportation challan/lorry receipt.

(v) Verification of Certificate of Commissioning from the beneficiary i.e. from the Deputy

Commissioner concerned.

- (vi) Photographs along with details of module, battery, etc. installed in soft copy(CD/DVD).
- (vii) All payments shall be released by MANIREDA through account payee cheque issued in favour of the Supplier or e-payment through RTGS/account transfer as the case may be for which the following mandatory information is to be furnished with Technical bid:
 - c) 5% of the Contract Price excluding MPWC shall be released on completion of two years' satisfactory performance of the street lighting systems.
 - (d) MPWC amount is payable @ 1% at the end of each year for 5 years on satisfactory performance of the SLS.

5. Technical Specification

WHITE-LED (W-LED) BASED SOLAR STREET LIGHTING SYSTEM

Sl. No.	Components	Specification for Solar Street Light fitting
1.	PV MODULE:	75 Wp under STC
2.	LIGHT SOURCE:	<p>W-LEDs should not emit ultraviolet light.</p> <p>12 Watt, W-LED luminaire, dispersed beam, soothing to eyes with the use of proper optics and diffuser.</p> <p>LED Chip should be compliance to IES: LM-80 (Approved Method for Measuring Lumen Maintenance of LED Light Sources and LED lumen depreciation time to L70). Test report for same should be submitted.</p>
3.	LIGHT OUTPUT:	<p>The luminaire must use high efficacy W-LED with minimum 135 lumens per watt (and UV free). [A Certificate to be submitted by the System supplier to the test lab during certification]</p> <p>For Single Light System: Minimum 24 Lux when measured at a point 4 meters below the light. The illumination should be uniform without dark bands or abrupt variations, soothing to the eye. Higher light output will be preferred.</p> <p>For Multiple Light levels: The luminaire should have two levels of light to take care of different lighting needs during the night. Minimum 24 Lux when measured at a point 4 meters below the light (at "High" illumination level). The illumination should be uniform without dark bands or abrupt variations. Minimum 12 Lux at lower illumination level. (Higher Light output will be preferred)</p> <p>The luminaire shall be tested for Electrical, Photometry and Color parameters like:</p> <ol style="list-style-type: none"> 1) Total luminous flux: ≥ 1500 lm. 2) Luminous efficacy (i.e. system efficacy): ≥ 125 lm/W. 3) Color Temperature : Between 5500 K to 6500 K.

TECHNICAL DETAILS :

1. 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 under STC should be a minimum of 75 Wp.
- (iv) **The module efficiency should not be less than 14 %.**
- (v) The terminal box on the module should have a provision for opening it for replacing the cable, if required.
- (vi) There should be a Name Plate Fixed inside the module which will give:
 - a. Name of the manufacturer or Distinctive Logo
 - b. Model or Type Number
 - c. Serial Number
 - d. Month and year of manufacture
- (vii) **A distinctive serial number starting with NSM will be engraved on the frame of the module or screen printed on the teller sheet of the module.**

2. BATTERY (Lithium Ferro Phosphate):

- (i) Minimum 12.8 V, 30AH capacity Lithium Ferro Phosphate Battery.
- (ii) Battery pack should have proper 'Battery management System' (BMS) for cell balancing, over charge and overtemperature protection.
- (iii) Battery should conform to the latest BIS/ International standards.

3. LIGHT SOURCE:

- (i) The light source will be a white LED type.
- (ii) The colour temperature of white LED used in the system should be in the range of 5500^o K – 6500^o K.
- (iii) W-LEDs should not emit ultraviolet light.
- (iv) The light output from the white LED light source should be constant throughout the duty cycle.
- (v) The lamps should be housed in an assembly suitable for outdoor use.
- (vi) The temperature of heat sink should not increase more than 20^o C above ambient temperature during the dusk to dawn operation.

4. ELECTRONICS:

- (i) The total electronic efficiency should be at least 90%.
- (ii) Charge controller should be MPPT Type.
- (iii) Electronics should operate at an appropriate voltage suitable for proper charging of the battery.
- (iii) No Load current consumption should be less than 20 mA.

- (iv) The PV module itself should be used to sense the ambient light level for switching ON and OFF the lamp.
- (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 fuses should be provided.

5. ELECTRONIC PROTECTIONS:

- (i) Adequate protection is to be incorporated under “No Load” conditions e.g. when the lamp is removed and the system is switched ‘ON’.
- (ii) The system should have protection against battery overcharge and deep discharge conditions.
- (iii) The System should have protection against short circuit conditions.
- (iv) Protection for reserve flow of current through the PV module(s) should be provided.
- (v) Adequate protection should be provided against battery reverse polarity.
- (vi) Load reconnect should be provided at 80% of the battery capacity status.

6. MECHANICAL COMPONENTS:

- (i) A corrosion resistant metallic frame structure should be fixed on the pole to hold the SPV module.
- (ii) The frame structure should have provision so that the module can be oriented at the suitable tilt angle.
- (iii) Pole should be Hot dip galvanized pipe as per IS1161 & IS4736 i.e. Class B
- (iv) Pole height 5 m above the ground level and 1 m below the ground. Luminaire shall be at least 4.5 m. above the ground level.
- (v) The pole should have the provision to hold the luminaire.
- (vi) The battery shall be either included in the luminaire enclosure, which should be water proof (IP 65) and corrosion resistant or outside the luminaire enclosure in a vented, acid proof and corrosion resistant, hot dip galvanized metallic box(IP 65) with anti-locking arrangement for outdoor use.

7. INDICATORS:

- . The system should be provided with 2 LED indicators: a green light to indicate charging in progress and a red LED to indicate deep discharge condition of the battery.
- . The green LED should show glowing when the battery is fully charged.

8. OTHER FEATURES:

- (i) The system body should have a name Plate and should provide the following details :
 - (a) Name of the Manufacturer or Distinctive Logo.
 - (b) Model Number
 - (c) Serial Number
 - (d) Year of manufacture
- (iii) Necessary lengths of wires/cables, switches and fuses should be provided as per the relevant BIS standard

9. QUALITY AND WARRANTY:

- (i) The complete White LED Solar Street Lighting system (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 watt capacity, 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) Components and parts used in White LED Solar Street Lighting systems should conform to the latest BIS/International specifications, wherever such specifications are available and applicable.
- (iv) The Warranty Card to be supplied with the system must contain the details of the system.

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:

- (a) Basic principles of Photovoltaics.
- (b) A small write-up (with a block diagram) on Street Street Lighting System – its components, PV Module, battery, electronics and luminaire and expected performance.
- (c) Type, Model number, Voltage & capacity of the battery, used in the system.
- (d) About charging and significance of indicators.
- (e) Clear instructions about erection of pole and mounting of PV module(s) and lamp housing assembly on the pole.
- (f) Clear instructions on regular maintenance and trouble shooting of solar street lighting system.
- (g) DO's and DONT's
- (h) Name and address of the contact person for repair and maintenance, in case of non-functionality of the solar lighting system.

6. Five Years Maintenance and Performance Warrantee Contract (MPWC)

1.0 The Maintenance and Performance Warrantee Contract (MPWC)

- 1.1 The Maintenance and Performance Warrantee Contract shall include servicing & replacement guarantee for parts and components (such as battery, electronics, LED luminaries, etc.) of Solar Street Lighting Systems for 5 years from the date of installation. For PV modules, the replacement guarantee is for 25 years.
- 1.2 The maintenance service provided shall ensure proper functioning of the SPV system as a whole. All preventive/routine maintenance and breakdown/corrective maintenance required for ensuring maximum uptime shall have to be provided by the Supplier. Accordingly, the Maintenance and Performance Warrantee Contract (MPWC) shall have two distinct components as described below.

2.0 Preventive/Routine Maintenance

- 2.1 This shall be done by the company at least once in a every year and shall include activities such as, cleaning and checking the health of the SPV system, cleaning of module surface, topping up of batteries, tightening of all electrical connections, changing of tilt angle of module mounting structure, cleaning & greasing of battery terminals and any other activity that may be required for proper functioning of the SPV system as a whole.
- 2.2 Maintenance and Performance Warrantee Contract (MPWC) shall be carried out by the authorized Servicing Centre of the firm located in Imphal.

- 2.3 Repairing and replacement of defective materials shall be done within reasonable time actually required by maintaining adequate stock of spares/consumables.
- 2.4 The Servicing Centre should be opened for 6 days a week and at least 8 working hours a day.
- 2.5 Record of maintenance/service done by the Servicing Centre shall be maintained in a log book i.e. mentioning details of beneficiary, type of fault/servicing attended, date of servicing, etc.
- 2.6 Payment of MPWC shall be made only after submitting maintenance report on yearly basis to this office by mentioning the defective/replaced items of the system with details of the beneficiary.

3.0 Breakdown/Corrective Maintenance

- 3.1 Whenever a complaint is lodged by the user, the bidder shall attend to the same within a reasonable period of time (7 days) and in any case the breakdown shall be corrected within a period not exceeding ten days from the date of complaint.
- 3.2 The bidder shall maintain the following facilities at the local Service Centre for ensuring highest level of services to the end user:
 - (i) Adequately trained manpower, specifically trained by the bidder for carrying out the service activities.
 - (ii) Adequate provisions for record keeping, which shall inter-alia, include the following: (a) Details of system supplied within the command area of the service station including full name and address of end user, system and sub-system serial numbers and records of routine maintenance carried out (duly signed by the end user). These records shall include voltage, current, specific gravity, indicator charge, full glow, charge controller operation, electronics, etc. (b) History record sheets of maintenance done.
 - (iii) Adequate spares and manpower for ensuring least down time of an individual system.
 - (iv) The Servicing Center shall submit summary service reports to MANIREDA on yearly basis. These reports shall include the following information:
 - (a) Number of systems covered by the Servicing Center.
 - (b) Number of systems working satisfactorily on the reporting date.
 - (c) Number of complaints received during the period of reporting.
 - (d) Number of complaints attend during the period of reporting.
 - (e) Major cause of failure, as observed.
 - (f) Major replacement made during the reporting period.Separate report shall be submitted for each type of systems manufacture wise in case the service center caters to the requirement of more than one manufacture
- 3.3 The records maintained at the Servicing Center shall be available from time to time to MANIREDA.
- 3.4 The date of MPWC maintenance period shall begin from the date of actual commissioning of the SSL system.
- 3.5 Bidder shall furnish details of infrastructure that are presently available for establishing of Servicing Centers.

List of BIS standards applicable for components of Solar PV Applications

Sl. No. (1)	Product (2)	Indian Standard Number (3)	Title of Indian Standard (4)
1.	Crystalline Silicon Terrestrial Photovoltaic (PV) modules (Si wafer based)	IS 14286	Design Qualification And Type Approval
2.	Thin Film Terrestrial Photovoltaic (PV) Modules (a-Si, CdTe and CdTe)	IS 16077	Design Qualification And Type Approval
3.	PV Module (Si wafer and Thin Film)	IS/IEC 61730 (Part 1)	Photovoltaic (PV) Module Safety Qualification Part 1 Requirements for Construction
		IS 61730 (Part 2)	Photovoltaic (PV) Module Safety Qualification Part 2 Requirements for Testing
4.	Power converters for use in photovoltaic power system	IS 16221 (Part 1)	Safety of Power Converters for use in Photovoltaic Power Systems Part 1 – General Requirements
		IS 16221 (Part 2)	Safety of Power Converters for use in Photovoltaic Power Systems Part 1 – Particular Requirements for Inverters
5.	Storage Batteries	IS 16270	Secondary Cells and Batteries for Solar Photovoltaic Application General Requirements and Methods of Test
		IS 16046	Standard for Lithium ion battery
6.	LED Lights & Luminaires	IS 16101	General Lighting – LEDs and LED modules – Terms and Definitions
		IS 16102	Self Ballasted LED Lamps for General Lighting Services
		IS 16103	LED Modules for General Lighting
		IS 16107	Luminaires Performance

7. Proforma – 1

Forwarding Letter

NIB No.: 9/LEDSLS/2021-22/MANIREDA

To,

The Director

Manipur Renewable Energy Development Agency (MANIREDA),

2nd Floor, South Block, Secured Office Complex, Near 2nd M.R. Gate, Imphal-Dimapur Road, Imphal-795001.

Sub : Offer In Response to Notice Inviting Bid No. 9/LEDSLS/2021-22/MANIREDA for Design, Manufacture, Supply, Installation & Commissioning Including 5 Years Maintenance and Performance Warrantee Contract (MPWC) of SSLs (W-LED Based) Under Interior Border Area Development Programme, Chandel District, Manipur.

Sir,

With reference to the above we are submitting this offer after having fully read and understood the nature of the work and having carefully noted all the specifications, terms & conditions laid down in the bid document. This offer is hereby submitted in two different envelopes sealed inside a third envelope duly marked and sealed as indicated below :

Part – I (Technical Proposal): Submitted in original plus one copy (1+1) Part – II (Price Proposal) : Submitted in one original copy only (1+0)

We also confirm that:

2. We are the Registered Firm.
3. The components of SPV systems shall be indigenously manufactured.
4. We have never been debarred from executing similar type of work by any State/Public Sector Undertaking/Department/Nodal Agency.
5. The Bid Document is purchased from MANIREDA office/downloaded from MANIREDA website (strike whichever is not applicable) and necessary document in support is enclosed.
6. We shall execute the offer/work order as per specifications, terms & conditions of the Bid Documents on award of work.
7. Our offer shall remain valid for placement of purchase orders up to 365 days from the due date of submission of offer.
8. If at any time, any of the declarations submitted by us is found to be false, our offer or order is liable to rejection.

Yours faithfully,

(Signature of Authorized Signatory)

Name :
Designation :
Firm Seal :

8. Proforma – 2

No Deviation Certificate

NIB No.: 9/LEDSLS/2021-22/MANIREDA

Date :

To

,

The Director
Manipur Renewable Energy Development Agency (MANIREDA)
2nd Floor, South Block, Secured Office Complex, Near 2nd M.R. Gate, Imphal-Dimapur Road, Imphal-
795001

Dear Sir,

We understand that any deviation/exception in any form from our bid against the above mentioned reference number may result in rejection of our bid. We, therefore, certify that we have not taken any exceptions/deviations anywhere in the bid and we agree that if any deviation is mentioned or noticed, our bid may be rejected.

Yours faithfully,

(Signature of Authorized Signatory)

Name :
Designation :
Firm seal :

Note : This "No Deviation Certificate" should be written on the letter head of the bidder indicating BID No. duly signed and stamped with date by a person competent and having the power of attorney to bind the bidder.

9. PROFORMA - 3

Format for Location-wise Detail of the Module & Battery Utilisation Report of W-LED based Solar Street Light (SSLs) Installed Under Interior Border Area Development Programme, Chandel District, Manipur.

NIB No. : 9/LEDSLS/2021-22/MANIREDA

Date :

.....
Name of Manufacturer/Supplier

.....
Name of Consignee

.....
Address of Consignee :

(15W) W-LED Solar Street Lighting Systems

Sl. No.	Name of beneficiary with Villages	Module			Battery			Luminaire with Control Electronics			Date of Installation
		Number	Make	Year of Manufacture	Number	Make	Year of Manufacture	Number	Make	Year of Manufacture	

10. Proforma – 4

Format for Submitting the Price Schedule

BID No.: 9/LEDSLS/2021-22/MANIREDA

Date :

To,

The Director
Manipur Renewable Energy Development Agency (MANIREDA)
2nd Floor, South Block, Near 2ndM.R. Gate, Imphal-Dimapur Road, Imphal-795001

Price Schedule

Sl.	Item	Total Bid Quantity	Price in Rupees	
			Unit Price	Total Price
1	2	3	4	5 = 3 x 4
	Supply of LED based (SSLs) as per the Bid Document including MPWC with break up:			
A	System cost including insurance, GST/VAT, transportation etc.			
B	Installation & Commissioning			
C	MPWC (for 5 years period)			
D	Total			

Note.:

- (i) Labour Cess @ 1% would be deducted at source out of labour charge applicable.
 - (ii) Service Tax @ 12.23% have to be paid directly by the firm.
 - (iii) Income Tax @ 2.244% of transportation & Installation charges would be deducted at source.
1. Above quoted price for SSLs are complete in all respect as per Technical Specifications inclusive of all Central/State/Local taxes & duties, packing, forwarding, transit insurance, loading & unloading, transportation & other charges etc. FOR Imphal.
 2. The above quoted price for SSLs is also inclusive of loading & unloading, transportation, installation, testing, commissioning, performance testing and training at sites of District Head Quarters of Manipur.
 3. Certified that rates quoted for SSLs are as per specifications, terms & conditions mentioned in the bid document.

Yours faithfully,

(Signature of Authorized Signatory)

Name:
Designation:
Firm seal :

11.Proforma-5

MATERIALS INSPECTION CLEARANCE CERTIFICATE (MICC)
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1. **Name of the Work:** Design, manufacture, supply, installation and commissioning of 50 Nos. of W-LED Solar Street Lighting Systems including 5 years MPWC in Manipur.
2. **Name of Worksite/Location:** 3(three) Interior villages, Chandel District of Manipur.
3. **Name of the Firm/Contractor:** :
4. **Work Order No.:** dated
5. **Shipment No.**.....
6. **Date shipped:**.....
7. **Shipped From** 8. **Shipped To** Imphal

SL. No.	Item Description	Qty./ system	Invoice No. & date	Challan No. & date	Make	Unit price	Amount	Remarks
1	2	3	4	5	6	7	8	9
1.(a)	SPV Module							
(b)	Module Structure							
2.(a)	Luminaire							
(b)	Electronics							
3.(a)	Storage battery							
(b)	Battery box							
4.(a)	Pole							
(b)	R.C.C. foundation							
5.	Cable							
6.(a)	Manual							
(b)	Others if any							

9. **Enclosed documents:** Packing List with model numbers, Invoice, Challan, Goods Consignment Note, Way Bill etc.

10. **Receiver's Use:** Quantities shown in column 2 were received in apparent good condition except as noted.

Date of received: _____ Signature of authorized MANIREDA representative
 Name: _____
 Designation: Field Assistant as Store Assistant

11. **Inspected on:**and jointly by MANIREDA officials and representative of M/sat store of MANIREDA/warehouse of the Firm at Imphal treated as transits store of MANIREDA and found okay.

12. **Destination:** Acceptance of listed items has been made by me or under my supervision and they conform to contract, except as noted herein or on supporting documents.

Date: _____ Signature of authorized MANIREDA representative
 Name: _____
 Designation: Scheme Officer

12. Check List & Format for Submission of Bid

The following information/documents are to be annexed and flagged by the bidders along with the BID

Sl. No.	Annexure and Proforma No.	Particulars	Yes/No, Flag No.
1.	Annexure-I	Details of Earnest Money (D.D. No.) from any nationalized bank and date valid for 12 months from the last date of submission of bids.	
2.	Annexure-II	The bidder is a Registered Firm/ Corporation Registered in India of SPV Cells / Modules / Battery / PV System Electronics/Solar Luminaries (conforming to relevant National / International Standards)	
3.	Annexure-III	Test Certificate conforming to MNRE approved specifications of W-LED Solar Street Lighting System from an authorised testing centres of the MNRE . (Test Certificate should have been issued on or after April 2019).	
4..	Annexure-IV	A copy of valid GST /State VAT/ TIN registration certificate	
5.	Annexure-V	A summarized sheet of cumulative experience in PV systems/power plants certified by registered CA	
6.	Annexure-VI	Overall Average Annual Turnover of the Firm/ Corporation in the last two financial years (A summarized sheet of turnover of last two Financial Years certified by registered CA)	
7.	Annexure-VII	Cumulative Experience of the Bidder in executing contracts of Solar Photovoltaic Systems/Solar Luminaries should be Rs. 1.0 Crore in the last 3 years (Installed & Commissioning).	
8..	Annexure-VIII	Overall average turnover of the Firm/Corporation in the last 2(two) financial years should be at least Rs. 0.5 crore (This must be the individuals Company's turnover and not that of any group of companies).	
9.	Annexure-IX	Bidder has Test Certificate for at least two of Solar Lanterns, Solar Home Lighting system, Solar Street Lighting System, Solar Water Pumping System or SPV Modules, battery, Electronics/Solar Luminaries, etc. from a MNRE authorized testing centre. (Test Certificate should have been issued on or after April 2019).	
10..	Annexure- X	Demand Draft for cost of bid document/photocopy of Demand Draft or money receipt if bid document is purchased from MANIREDA office.	
11.	Annexure-XI	Earnest Money Deposit in the form of Demand Draft issued by Nationalised Bank having branch at Imphal and having validity of 1 year. Earnest Money Deposit in the form of Demand Draft issued by Nationalised Bank having branch at Imphal which is extendable up to 1 year.	
12.	Proforma -1	Forwarding Letter.	
13.	Proforma -2	No Deviation Certificate.	
14.	Proforma -3	Format for Location-wise Detail of the Module & Battery Utilization Report of W-LED based SSLs Installed under IBADP, Chandel District, Manipur.	
15.	Proforma -4	Format for Submitting the Price Schedule.	
16.	Proforma -5	Materials Inspection Clearance Certificate (MICC)	
17.	Annexure- XII	Check List & Format for Submission of Bid.	

Please ensure:

1. That all information is provided strictly in the order mentioned in the check list mentioned above.
2. Note that this is a zero deviation tender. Bidders are advised to strictly confirm compliance to bid conditions and not to stipulate any deviation/conditions in their offer. Subsequent to bid submission, MANIREDA may or may not seek confirmations/clarifications and any offer(s) not in line with Bid conditions shall be liable for rejection.
3. Any clarification/confirmation bidder may require shall be obtained from MANIREDA before submission of the bid.
4. Bidder shall submit complete bidding document including subsequent amendment, modification and revision, duly signed and stamped as a token of having read, understood and accepted all the terms and condition mentioned therein.

..... End of Bid Document