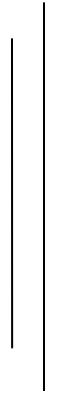


BID DOCUMENT

For

Upgradation / Installation of Off-Grid Solar Power Plants at Deputy Commissioner's Offices in Manipur



NIB No. MANIREDA/SPP/DC/2024-25/17

Under

**Special Assistance to States for Capital Investment (SASCI) Scheme
of the Ministry of Finance, Government of India**

Submitted by:

**The Manipur Renewable Energy Development Agency (MANIREDA)
2nd Floor, South Block, Secured Office Complex, A.T. Line, Near Imphal Hotel,
Imphal - 795001**

e-mail : manireda99@yahoo.com

Website : www.manireda.mn.gov.in

(This tender document is having 35 pages including this page)

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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.: MANIREDA/SPP/DC/2024-25/17 dated: 06/01/2025

Tenders are invited from reputed firms for 'Design, manufacture, supply, installation & commissioning including 5(five) years Maintenance and Performance Warrantee Contract (MPWC) of 10 kWp (6 Nos.), 25 kWp (7 Nos.) and 35 kWp (2 Nos.) at different Deputy Commissioner's Offices in Manipur' as per approved specification of MNRE.

Last date & time for submission of Tender	Date & time for opening of Tender
27/01/2025 upto 12.00 Noon	27/01/2025 at 1.00

Tender Document can be downloaded from the websites; www.manipurenders.gov.in or www.manireda.mn.gov.in. Prospective bidders are requested to remain updated for any amendments/modifications/cancellation, etc. in the bid document conditions/terms 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.

N.B.: MANIREDA reserves the right to modify/ cancel the Tender without assigning any reason thereof or without bearing any liability, whatsoever, consequent upon such decision.

Sd/-

(N. Praveen Singh)
Director, MANIREDA

2. Tender Abstract

Sl	Description	Details
1.	Notice Inviting Bid (NIB) No.	MANIREDA/SPP/DC/2024-25/17 dated 06/01/2025
2.	Scope of work	Design, manufacture, supply, installation & commissioning including 5(five) years Maintenance and Performance Warrantee Contract (MPWC) of 10 kWp(6 Nos.), 25 kWp(7 Nos.) and 35 kWp(2 Nos.) at different Deputy Commissioner's Offices in Manipur.
3.	Place of issue & submission of bid documents and address	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.	Last date & time of submission of bids	Date : 27 th Jan., 2025 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 : 27 th Jan., 2025 Time : 1.00 p.m. 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. 1,500/- in the form of D.D. favoring Director MANIREDA payable at Imphal.
9.	Earnest Money (Refundable)	Rs. 15,00,000/- in the form of D. D. favoring Director MANIREDA, payable at any Nationalized bank having branch at Imphal. For MSME, EMD is exempted
10.	Time of completion	Within 3(Three) 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 is adjustable with Security Deposit for successful Bidder.

CHAPTER - I

Detailed Notice Inviting Bid (DNIB) :

1. Bid Document :

- 1.1 This bid document comprises of total 35 pages including Proformas. 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.
- 1.2 The Technical Bids and Financial Bids will be opened on the date and time mentioned in the tender website in the **Office of the Director, MANIREDA, 2nd Floor, South Block, Secured Office Complex, AT Line, Near Hotel Imphal, Imphal** in presence of bidders or their authorized representatives. The representative should produce authorization letter to attend the bid opening meeting in the Proforma - 2.

2. Cost of Bid Document :

- 2.1 Bidders can 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 Technical Bid.
- 2.2 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. 15,00,000/- in favour of "Director, MANIREDA" payable at Imphal from any Nationalized bank. For MSMEs, EMD is exempted.
- 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 fifteen 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.

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 3% 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 3% security deposit or refunded the excess amount if the EMD happens to be more.
- 4.3 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 The Bid Documents should have proper paging and flagging of Annexures/details. Documents without proper binding and proper paging etc. will not be considered in the evaluation. Any Overwriting /illegible/erasing, etc. in the documents submitted by the firms shall not be accepted.
- 5.4 Insertion, post-script, addition and alteration in Hard Copy shall not be recognized unless confirmed by bidder's signature and stamp.
- 5.5 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.
- 5.6 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 :

Bidders have to submit the Technical Bid online as well as Hard copy as stated below:

- 6.1 The bidder shall submit the following in Technical Bid;
- (i) Scanned copy of Tender Fee & EMD.
 - (ii) Forwarding Letter- Proforma -1
 - (iii) Authorization letter for attending Bid Opening Meeting - Proforma-2
 - (iv) Information about the Bidding Firm- Proforma-3
 - (v) Details of Orders Received and Executed in Past 3 years. Bidders should have installed and commissioned at least one 100 kWp capacity of Hybrid Off-Grid SPV Power plant whose work order issued in the name of the bidder to Govt. aided/Govt. Deptt./Institutions/Private Institution.
 - (vi) Test Report of Hybrid inverter from an MNRE approved/competent Testing Centres.
 - (viii) Test Report for Battery/Battery Bank to be supplied from an MNRE approved/ competent Testing Centres.
 - (ix) **Warranty Certificate of Hybrid Inverters / Battery/Battery Bank to be supplied for a period of 5 years from the Manufacturer.**
 - (x) A summarized sheet of turnover for last 3 yrs certified by registered Chartered Accountant.
 - (xi) Letter of authorized dealer/service provider in Manipur
 - (xii) ISO 9001 certificate.
 - (xiii) ISO 14001 certificate.

(xiv) GST Registration Certificate of Company/Firm.

- 6.2 The hard copy of Technical Bid should be submitted in a sealed envelope superscribed "NIB No. : MANIREDA/SPP/DC/2024-25/17 (Technical Bid)", to the office of MANIREDA, 2nd Floor, South Block, Secured Office Complex, AT Line, Near Hotel Imphal, Imphal-795001 addressed to Director, MANIREDA. This envelope should contain the following:
- (i) Cost of bid document.
 - (ii) Original EMD by demand Draft of requisite value.
 - (iii) Technical Bid should not contain price of any item. Such cases, even if found anywhere, shall not be given any cognizance.
- 6.3 The hard copy with earnest money and cost of tender document has to be submitted during the period upto 12 noon of 27th Jan., 2025 failing which no late comers would be strictly entertained.
- 6.4 The Bidders should furnish the Authorization letter as per Proforma – 2 with the seal of the company for the person attending the Bid Opening meeting & signing the bid document.
- 6.5 A person signing the bid document or any document forming part of the bid document shall be deemed to warrant that he has authority to bind such offer/ document and if on enquiry it appears that the person signing had no authority to do so, MANIREDA may, without prejudice to other civil and criminal remedies, cancel the bid/contract and hold the signatory liable for all costs and damages.

CHAPTER – II

SCOPE OF WORK :

7. Scope of Work :

7.1 The scope of work is to supply, manufacture, installation & commissioning of

- 10 kWp Off-Grid SPV Power Plants each at 6(Six) Deputy Commissioners' offices in Manipur
- 25 kWp Off-Grid SPV Power Plants each at 7(Seven) Deputy Commissioners' offices in Manipur
- 35 kWp Off-Grid SPV Power Plants each at 2(Two) Deputy Commissioners' offices in Manipur

including 5 years Maintenance and Performance Warranty Contract (MPWC). Details of sites will be intimated at the time of placement of the Work Order.

7.2 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. The Bidder shall carefully check the specifications and shall satisfy himself regarding the technical requirement and completeness of the equipment/system. 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. If any amendment in specification is made by MNRE during implementation of this project, the same shall be followed by MANIREDA.

7.3 The bidders should beforehand thoroughly familiarized with the site to be installed, incidental

expenditures/charges on transportation, installation and maintenance expenses etc. They should also access the local conditions including prevailing law and order problems before submitting their offer. Any claim on change/increase in the rate/cost of the work due to any reason will not be entertained at any circumstances.

- 7.4 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 Financial Bid opening. Such request for clarification and the response shall be in writing.
- 7.5 It is not necessary to select the lowest quoted rate. MANIREDA reserves the right to decide the reasonable price/rate for successful implementation of the project.
- 7.6 The Financial Bid of only those bidders, whose Technical Bids are found qualified after evaluation, will be opened and evaluated. In case of deviation in the date and time of opening of the Financial Bid from what is given in the Bid Detail, the date & time for opening of the Financial Bid will be uploaded on MANIREDA website. Bidders are requested to visit the website (www.manireda.mn.gov.in) regularly and keep themselves informed.
- 7.7 The bidders shall be ranked **L1, L2, L3** etc. The work order will be issued subject to the acceptance of the bidders to supply at approved rate. MANIREDA reserves the right to award more than one firm for execution.

8. Price :

- 8.1 The Bidder shall quote price as per Proforma – 8. 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.
- 8.3 The quoted price should be between $\pm 5\%$ of the Estimated Cost of the Project otherwise the tender is liable for rejection.

CHAPTER – III

ELIGIBILITY CRITERIA :

9. Eligibility and Qualification Criteria :

- 9.1 The bidder should be:
A Registered Company/Firm/Corporation in India with supporting documents. Cumulative Experience of the Bidders should be of executing contracts of Hybrid Off-Grid Solar Power Plants (installed & commissioned). The Bidders should have designed, supplied, installed & commissioned and tested a minimum of 100 kWp Hybrid Off-Grid Solar Power Plant in Govt. aided/Govt. Institution/ Private Institution etc.
- 9.2 Bidder should have Test Certificate of Battery Banks to be installed from an approved/competent testing centres as per requirements under the JNNSM scheme of the MNRE, GOI.
- 9.3 The Bidder should have provide the Company Warranty Certificate of Battery/Battery Bank to be supplied for a period of 5 years from the Battery Manufacturer during the Technical Bid otherwise the bid is liable to be rejected.
- 9.4 Cumulative Turnover of the Company/Firm/ Corporation in the last three financial years (2021-22, 2022-23 & 2023-24) should be at least 400 Lakhs. This must be the individual Company's turnover and not that of any group of Companies. (A summarized sheet of turnover certified by registered CA should be compulsorily enclosed).
- 9.5 The Bidder should have registered office/authorized dealer/service network in Manipur. Details of

the authorized dealer viz. name, address, contact no. both mobile and landline, e-mail ID etc. should be enclosed.

- Bidders who do not have service network in Manipur should be willing to appoint within 15 days from the date of Work Order and the details should be submitted. A self declaration on the same should be submitted with the Bid document.
- Trained manpower, proper infrastructures with adequate spares should be maintained in the office for smooth execution of MPWC.

9.6 The Bidder should have valid GST registration certificate. A copy of which should be enclosed. The bidder should have ISO 9001, ISO 14001 certification.

CHAPTER - IV

PAYMENT TERMS :

10. Terms of Payment :

10.1 70% of the total work order value (excluding installation, commissioning and MPWC cost) shall be released against delivery of goods in full and in good condition subject to availability of fund and after submission of :-

- (i) Certificate of supply of complete systems of solar power plant received by the consignee as specified.
- (ii) Commercial invoice of the supply made in triplicate.
- (iii) Copy of delivery challan/transportation challan/lorry receipt.
- (iv) Material Inspection Clearance Certificate (MICC).

10.2 25% of the contract price (excluding installation, commissioning and MPWC charges) and 100% of installation, commissioning charges shall be paid against duly verified completion report with successful installation and commissioning including erection and testing of the systems after submission of the following documents:

- (i) Certificate of installation, commissioning and testing of solar power plant.
- (ii) Commercial invoice of the supply made in triplicate.
- (iii) Copy of delivery challan/transportation challan/lorry receipt.
- (iv) Verification of Certificate of Commissioning and testing from the consumer/beneficiary countersigned by officer concerned.
- (v) Photographs along with details of module, inverter/PCU, metering etc. installed.
- (vi) All payments shall be released by MANIREDA through e-payment through RTGS/account transfer for which the following mandatory information is to be furnished from the consumer;

Name of the Firm to whom payment is to be made	Name of bank	Bank Branch address	Account Number	Type of account	MICR Code	IFSC code	PAN No.
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10.3 Performance Guarantee :

- (i) The contractor has to deposit @3% of the project cost (excluding MPWC cost) as Performance Guarantee in terms of irrevocable Bank Guarantee for the tenure of the contract including MPWC period. For the successful bidders, the EMD submitted may also be adjusted as part of the Performance Guarantee, but the firm has to submit the balance in the form of BG to make requisite 5% Performance Guarantee. If the Solar system fails to conform to the laid down systems specifications or any deviation/compromise has been observed in the system specifications etc., the performance guarantee deposit of the firm shall be forfeited.
- (ii) MPWC charges shall be released on 5 equal yearly installments on satisfactory performance. The record of performance sheet/metering system duly attested by the Beneficiaries shall be submitted to MANIREDA on quarterly basis, by 15th of the next month.

CHAPTER - V

11. General Terms and Conditions :

11.1 No Claim or Compensation for Submission of Tender.

11.2 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. Validity of Offer :

12.1 Unless otherwise specified, the bidder shall keep his tender valid initially for a period of 365 days from the due date of submission of the offer.

13. Award of Contract/Work Order :

13.1 The contract/work order shall be awarded to the bidder whose Financial Bid was acceptable and who is selected by the Tender Committee of MANIREDA/Departmental Tender Committee to undertake the work at the approved rate.

14. Effective Date of Contract :

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

15. Contract Price :

15.1 The total contract price should include a detailed break up of cost for supply of each materials such as panels, control electronics, inverters, batteries, mechanical components, etc. including 5 years MPWC in Proforma - 8. The price shall be for the total scope as defined in this document.

15.2 The income tax shall be deducted as applicable at the existing rate.

15.3 During the period of the contract, MANIREDA may order addition/deletion in quantities/capacities which the bidder shall comply. The adjustment in Contract Price shall be made at the same unit rate as per **Price Schedule (Proforma - 8)**.

16. Statutory Variations in Taxes and Duties:

- 16.1 The adjustment in the Contract Price towards imposition of new taxes or abrogation of existing taxes due to statutory variation shall be applicable only if the new tax is enacted or existing tax is abrogated within contractual delivery/execution period. For any upward variation due to enactment of new tax or abrogation of existing tax after contractual delivery/execution period, adjustment in the Contract Price shall not apply, although for any downward variation, MANIREDA shall make necessary adjustment in the rate of the items.
- 16.2 The Supplier shall bear and pay all liabilities in respect of statutory variations in taxes and duties and imposition of new taxes and duties that may be imposed after the contractual delivery/execution dates, as originally stipulated, in case the delivery dates are extended due to reasons attributable to Supplier.

17. Agreement:

- 17.1 The Supplier/Contractor(s) have to enter into an agreement within two weeks, in the office of the Director, MANIREDA in prescribed format before commencement of supply/services.

18. Dispatch Instructions:

- 18.1 All items/equipments may be subjected to pre-dispatch inspection by authorized representative(s) as per relative standards/provisions approved by MANIREDA before dispatch of items. Cost of inspection by officials (not more than two) would be borne by the successful bidder.

19. Transit Insurance:

- 19.1 Transit Insurance shall be arranged by the Supplier for his total supplies. In case of any damage/loss/pilferage/non-delivery during transit, the Supplier shall lodge the claim and settle the claim with the insurance agency. The Supplier shall also arrange replacement of the damaged, lost/pilfered items expeditiously pending settlement of commercial implications with insurance agency, if any, so as not to hamper the working of the system. The resultant loss if any due to failure of Supplier to comply with the above shall be to the account of the Supplier.

20. After Sales Service and Availability of Spare Parts:

- 20.1 The Supplier shall depute authorized Service Engineer within 3 days from the date of the intimation of fault, and establish sufficient inventory of spares, well trained technicians in the State in consultation with MANIREDA to provide satisfactory and uninterrupted services during the guarantee/ MPWC period for which a servicing centre must be established at Imphal. Details of the Servicing centre such as Name, Address, Contact number, Agreement of Service Centres with local representative, if any, etc. of the Firm must be submitted to MANIREDA before commencement of the work.

21. Completion Schedule:

- 21.1 The Project for installation of the power plants shall be completed in full as per the terms and conditions of the contract within **2 (Two) months** from the date of issue of the Work Order.

22. Guarantee/Warranty Period:

- 22.1 The Firm must provide guarantee which include servicing & replacement guarantee for the

components.

22.2 Supplier/contractor shall without prejudice to any other clauses of the order repair the defective parts and restore the system to satisfactory working/performance within 7(seven) days of intimation of fault without any additional cost to MANIREDA within the period of guarantee/MPWC.

23. Assignment/Sub Letting/Pre Bidding Tie Up :

23.1 The Supplier/contractor shall not assign or sub let, manufacture, shop testing, packing & forwarding, transportation, transit insurance and supply, in whole or part, its obligations to any third party to perform under the order/contract.

23.2 In the event the Supplier contravenes this condition, MANIREDA reserves the right to reject the equipment/work sub-contracted and procure the same from elsewhere at Supplier's risk and cost. The Supplier shall be solely liable for any loss or damage which MANIREDA may sustain in consequence or arising out of such replacing of the contract work.

23.3 In case, the installation & commissioning and MPWC is planned to be carried out in collaboration with other party, the bidder has to sign MoU with the party on a Non-judicial stamp paper of value not less than Rs. 100/- and submit a copy of the MoU along with the bid. The MoU shall clearly indicate division of scope of work between the prime bidder and his sub-vendor and terms of payment. However, the total responsibility of work will remain with the prime bidder.

24. Liquidated Damages for Delay in Completion:

24.1 The completion period for the assignment must carefully be worked out and all resource & work planning is to be done accordingly with flexibility for adjustments.

24.2 If the Supplier fails in the due performance of the contract to deliver and commission any part of the equipment or complete the work within the scheduled date for any reason other than due to Force Majeure conditions or any extension thereof granted to him by MANIREDA, he shall be liable to pay to MANIREDA as pre-agreed liquidated damages but not by way of penalty on account of delayed successful commissioning, a sum equal to 0.1% of total contract value per week of such delay, or part thereof, subject to maximum of 5% of the Total Contract Value.

24.3 The liquidated damages for delayed completion shall be recovered from the Supplier's Bill / Bank Guarantee deposited as Performance Guarantee.

24.4 Deductions/payment of liquidated damages shall in no way relieve the Supplier from his contractual responsibility to complete the works.

25. Cancellation of Order:

25.1 MANIREDA will be at liberty to terminate in part or full the awarded contract without prejudicing its rights and affecting the obligations of the Contractor by giving seven (7) days notice in writing in the following events:

(a) If the Supplier is found defaulter for delayed supply or failure to deliver satisfactory performance or supply of substandard materials pursuant to NIB conditions.

(b) If the Supplier/Vendor fails to comply with the provision(s) of the contract including the responsibilities to fulfill the 5 years maintenance and performance warranty contract as per the provisions mentioned in this bid document.

(c) If the Supplier/Vendor is involved in any action of moral turpitude.

26. Arbitration:

26.1 All disputes or differences, whatsoever, arising between the parties out of or in relation to the construction, meaning and operation or effect of this contract or breach thereof shall be settled amicably.

- 26.2 If, however, the parties are not able to resolve them amicably, the same shall be settled by arbitration in accordance with the Rules of Arbitration of the Indian Council of Arbitration and Conciliation & Arbitration Act 1996 and the award in pursuance thereof shall be binding on the parties.
- 26.3 The venue of arbitration proceeding shall be within Jurisdiction of Court of Law at Imphal only.
- 26.4 Work under this contract shall be continued by the Supplier during the arbitration proceedings, unless otherwise directed in writing by MANIREDA or unless matter is such that the work cannot possibly be continued until the decision of the Arbitrator is obtained.
- 27. Force Majeure:**
- 27.1 Should at any time during the continuance of the contract the performance in whole or in part of any obligations by either party under this contract be held up by reasons of any war, hostility, civil commotion, sabotage, fires, floods, earthquakes, explosions, epidemics, cyclones, quarantine restrictions, Governmental regulations, law & order and other proclamation etc. (hereinafter referred to as "Events") then, provided notice of the happening of any such eventuality is given by either party to the other within 15 days from the date of occurrence thereof neither party shall, by reasons of such eventuality, be entitled to terminate this contract, nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance, and the work under this contract shall be resumed as soon as practicable after such eventuality has come to an end or ceased to exist.
- 27.2 Should one or both the parties be prevented from fulfilling their contractual obligations by a state of force majeure, lasting continuously for a period of at least four (4) weeks, the two parties should consult each other regarding the further implementation of the contract.
- 27.3 The above-mentioned force majeure conditions/ clause shall also apply in the works of sub-contractors/suppliers of the contractor.
- 27.4 However, the Supplier shall not be liable for liquidated damages or termination/ cancellation of order/contract if and to the extent that its delay in performance or other failure to perform its obligations under the contract is the result of an event of force majeure.

CHAPTER – VI: TECHNICAL SPECIFICATIONS

Scope of the Work :

The scope covers supply, installation and commissioning of a solar photovoltaic power plant in different Deputy Commissioner's Offices , as mentioned below:

'Design, manufacture, supply, installation & commissioning including 5(five) years Maintenance and Performance Warrantee Contract (MPWC)of 10 kWp(6 Nos.), 25 kWp(7 Nos.) and 35 kWp(2 Nos.) at different Deputy Commissioner's Offices in Manipur' as per approved specification of MNRE.

Location Details of sites for the installation of Solar Power Plants :

- i. Upgradation of 6(Six) DC Offices by 10 kWp each, (Imphal East, Thoubal, Ukhrul, Senapati, Chandel, Tamenglong)
- ii. Installation of 25 kWp solar power plants at DC offices of 7(Seven) Districts (Tengnoupal, Kakching, Kamjong, Jiribam, Noney, Pherzawl, Bishnupur) and
- iii. Installation of 35 kWp solar power plants at DC Offices of 2(Two) Districts (Imphal West, Churachandpur).

The proposed location for installation of the SPV modules is on the top of the building.

Definition :

1. Standalone solar PV power plant system comprises of solar PV modules with inbuilt array optimiser or panel MPPT optimiser VRLA, Gel Type battery bank, intelligent on hybrid inverter which feeds uninterrupted quality AC power to electrical loads taking energy from PV or battery bank as the case may be. Batteries will be charged from solar energy by charge controller integrated in the inverter or by an external charge controller.
2. Duty Cycle :
 - 2.1 The system should be capable for operating 6-8 hours daily during a normal sunny day under average daily insolation of 5 kWh/sq.m on a horizontal surface.
3. Load :
 - 3.1 The system should be connected to the available load operating for the period of 6-8 hours daily on an average.
4. SPV Modules :
 - 4.1 Only indigenously manufactured, Monocrystalline cell PV modules of 540 or higher capacity Wp with 144 Nos. of cells should be used in the power plant.
 - 4.2 The PV module should have IEC 61215 / IS14286 qualification certification for solar PV modules.
 - 4.3 In addition, the module must conform to IEC 61730 Part-1 requirements for construction & Part-2 requirements for testing for safety qualification.
 - 4.4 PV modules must qualify salt mist corrosion testing as per IEC 61701.
 - 4.5 Shading correction/ bypass for optimizing array out to be incorporated in each module or panel level MPPT and shading optimization to be provided.
 - 4.6 Each PV module used in any solar power project must use a RF identification tag (RFID), which must contain the following information. The RFID can be inside or outside the module laminate, but must be able to withstand harsh environmental conditions.

(i) Name of the manufacturer of PV Module

- (ii) Name of the manufacturer of Solar cells
 - (iii) Month and year of the manufacture (separately for solar cells and module)
 - (iv) Country of origin (separately for solar cell and module)
 - (v) I-V curve for the module
 - (vi) Peak Wattage, I_m , V_m and FF for the module
 - (vii) Unique Serial No. and Model No. of the module
 - (viii) Date and year of obtaining IEC PV module qualification certificate
 - (ix) Name of the test lab issuing IEC certificate
 - (x) Other relevant information on traceability of solar cells and module as per ISO 9000 series.
- 4.7 The following details should be provided on the module
- i. Name of the manufacturer
 - ii. Month and year of manufacture
 - iii. Peak Wattage of the module
- 4.8 The PV modules must be tested and approved by one of the IEC authorized test centres. Test certificates can be from any of the NABL/ BIS accredited Testing / Calibration Laboratories.
- 4.9 The power output of the module(s) under STC should be maintained.
- 4.10 PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.
5. Power Conditioning Unit :
- 5.1 Power Conditioning Unit (PCU) shall comprise of charge controller and MPPT unit with power optimiser, hybrid inverter, voltage stabilizer, and distribution panel along with necessary displays, indicators and alarms.
- 5.2 The operation of the PCU should be in such a way that when sunshine is sufficiently available, the load should be drawn from the SPV module, and at times when sunshine is insufficient, load should be drawn from both module and battery.
- 5.3 When working at partial load, balance SPV power should be catered for battery charging.

CHARGE CONTROLLER & MPPT:

- 5.4 The control system should continuously adjust the voltage of the generator to optimize the power available. The power conditioner must automatically re-enter standby mode when input power reduces below the standby mode threshold. Front Panel display should provide the status and fault indication (if any).
- 5.5 The charge controller and MPPT should conform to IEC 60068-2 (1,2,14,30) for environmental testing.
- 5.6 The charge controller and MPPT should conform to following electrical parameters:
- a) Operational Voltage Range:
 - b) 110 V/240 V... according to the battery bank and panel array.
 - c) Series disconnect, PWM type.
 - d) Controlling element: IGBT/ MOSFET.
 - e) The Charge controller/MPPT units should conform to IEC 60068-2 (1,2,14,30), if charge controller is not part of the inverter.
- 5.7 Solid State MPPT based series pulse width modulation charger with minimum three stages (bulk, absorb and float).
- 5.8 Current rating as required for panel array and battery bank.
- 5.9 Electronic protection for:
- a) Short circuit
 - b) Overload

- c) Over temperature
- d) Reverse polarity

5.10 Auto resetting electronic over current protection.

5.11 Digital LED/ LCD display of input SPV voltage and current, battery voltage and current. Separate indication for SPV charging shall also be provided. Battery Charge Level LED Indicator (s) – Low, Medium, High, Full. Battery Low indicator and Alarm/ cut-off.

INVERTER :

5.12 A minimum of 120/240 VDC to 400/440 volt AC (3 phase) inverter for 10/25/35 kWp system. Rated capacity of inverter should be 10/25/35 kVA (single unit).

5.13 Will have following features preferably from Indian Manufacturer:

- a) Conform to IEC 61683/ IS 61683 for efficiency measurement, and IEC 60068-2 (1,2,14,30) or equivalent BIS standard for environmental testing.
- b) Type: Self commuted, current regulated, IGBT/ MOSFET based.
- c) Output voltage: Output voltage $230 \pm 2\%$ for 1 ϕ / $400 \pm 2\%$ for 3 ϕ .
- d) Output frequency :50 Hz
- e) THD: Less than (<) 5%
- f) Efficiency: Above 80% at 50% load & 85% at full load.
- g) Ambient temperature: 10 to 50°C
- h) Relative humidity: 90% Non-condensing

5.14 Protections :

- a) Short circuit (circuit breaker & electronic protection against sustained fault).
- b) Over-load protection
- c) Under voltage & Over-voltage of Battery and grid (automatic shutdown)
- d) Auto/ Manual re-connects provision
- e) Reverse polarity protection both for the PV array and Battery bank (DC)

5.15 Cooling:

– Air cooled

5.16 Other Features: a) Surge Protection: 150% of the rated capacity for a period of 10 seconds b) Provision for connection of Data-logger to monitor at least ten system parameters & events logs.

c) Acoustic Noise Level ≤ 50 dB

5.17 Indicators / Displays / Alarms

- a) Digital Display(s) of input DC SPV voltage & current, along with Energy Meter
- b) Digital Display (s) AC output voltage, frequency, power and current
- c) Digital Display of output AC kWh meter (Daily/ Cumulative)
- d) Overload Alarm / cut-off
- e) System Cut-off Indicator
- f) System Reset Button

5.18 Electrical safety, earthing and protection

- a) Internal Faults: In built protection for internal faults including excess temperature, commutation failure, overload and cooling fan failure (if fitted) is obligatory.
- b) Over Voltage Protection: Over Voltage Protection against atmospheric lightning discharge to the PV array is required. Protection is to be provided against voltage fluctuations in the grid itself and internal faults in the power conditioner, operational errors and switching transients.
- c) Earth fault supervision: An integrated earth fault device shall have to be provided to detect eventual earth fault on DC side and shall send message to the supervisory system.

- d) Cabling practice: Cable connections must be made using PVC insulated copper cables, as per BIS specifications. All cable connections must be made using suitable terminations for effective contact. The PVC copper cables must be run in GL trays with covers for protection.
 - e) Fast acting semiconductors type current limiting fuses at the main bus-bar to protect from the grid short circuit contribution.
 - f) The inverter shall include an easily accessible emergency OFF button located at an appropriate position on the unit.
 - g) All exposed surfaces of ferrous parts shall be thoroughly cleaned, primed and painted or otherwise suitably protected to survive nominal 30 years design life of the unit.
 - h) The inverter enclosure shall be weatherproof and capable of surviving climatic changes and should keep the inverter intact under all conditions in the room where it will be housed. The inverter shall be located indoor and should be either wall/ pad mounted. Moisture condensation and entry of rodents and insects shall be prevented in the inverter enclosure. Components and circuit boards mounted inside the enclosures shall be clearly identified with appropriate permanent designations, which shall also serve to identify the items on the supplied drawings.
 - i) All doors, covers, panels and cable exists shall be gasketed or otherwise designated to limit the entry of dust and moisture.
 - j) All doors shall be equipped with locks. All openings shall be provided with grills or screens with openings no larger than 0.95 cm.
- 5.19 Factory Testing :
- a) Operation of all controls, protective and instrumentation circuit shall be demonstrated by direct test if feasible or by simulation operation conditions for all parameters that cannot be directly tested.
 - b) Operation of start-up, disconnect and shutdown controls shall also be tested and demonstrated. Stable operation of the inverter and response to control signals shall also be tested and demonstrated.
 - c) Factory testing shall include measurement of phase currents, efficiencies, harmonic content and power factor.
 - d) Factory testing of the Inverter/ Inverters should be carried out and witnessed by the Purchaser's Engineers at the manufacturer's premises, if necessary.

WEB-BASED / REMOTE MONITORING

- 5.20 Facility for remote/ web-based monitoring of all the basic parameters of the power plant including but not limited to the energy generated, local solar radiation, temperature (ambient and array), etc. at least at 10 minute intervals, and also cumulative data.

6.0 Battery Bank :

- 6.1 The battery bank should comprise of **120/240 V of 2 Volt 1000 Ah** (under standard test condition) of VRLA (Gel Type) battery having long service life (minimum five years) for the power plants. The cells shall be capable of deep discharges and frequent cycling with long maintenance intervals and high columbic efficiency.
- 6.2 The Storage Batteries/Battery Bank must conform to the latest edition of IEC/equivalent BIS Standards as specified below:
- i) General Requirements &
 - ii) Methods of Test - IEC 61427
 - iii) Tubular Lead Acid - IS 1651: 1991

- 6.3 **Warranty:** The Storage Batteries/Battery bank must be warranted for 5 years from date of commissioning i.e. any battery damaged or defunct within this period (5 years from the date of commissioning) shall be replaced by the successful bidder/Contractor with a new one of same make and configuration.
- 6.4 The permitted maximum deep discharge (DOD) shall be specified by the supplier in the offer. Unless otherwise specified, the cycle life of the battery shall not be less than 1200 charge-discharge cycles between fully charged state and the permitted maximum DOD at a rate of C/10, end of life shall be 80% of the rated capacity. Each battery shall be fitted with explosion proof safety vents.
- 6.5 All technical and other details pertaining to the storage cells shall be supplied including but not limited to the following:
- i. Rated voltage and Ampere-hour capacity of each storage cells and their rated discharge rate; Permitted maximum DOD;
 - ii. Self discharge rate;
 - iii. Cycle life of the storage cells and anticipated life of the battery banks;
 - iv. Instructions on first time charging including specification of the battery charger;
 - v. Details on cell connections; and
 - vi. Safety procedures
- 6.6 One set of battery maintenance tools consisting of Thermometer, Cell Tester, Hydro Meter, Acid & Distilled water pouring containers of required size, battery connection leads, Acid Proof Hand Gloves, Gumboots and one set of hand tools suitable for making battery connections to be supplied with the Battery Banks.

7.0 Array Support Structure :

- a) Wherever required, suitable number of PV panel structures shall be provided. Structures shall be of flat-plate design using either I or L sections.
- b) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Galvanizing should meet ASTM A-123 hot dipped galvanizing or equivalent, which provides at least spraying thickness of 70 microns on steel as per IS 5905, if steel frame is used. Aluminium frame structures with adequate strength and in accordance with relevant BIS standards can also be used.
- c) Structures shall be supplied complete with all members to be compatible for allowing easy installation at the site.
- d) The structures shall be designed to allow easy replacement of any module.
- e) Each structure shall have a provision to adjust its angle of inclination to the horizontal as per the site conditions. Solar module should be inclined towards south direction and installed at an angle of 10° from the horizontal.
- f) Each panel frame structure shall be so fabricated as to be fixed on the roof top column/ wall structures/ground. The structure should be capable of withstanding a wind load of 200 km/hr after grouting and installation. The front end of the solar array must be 30 cm above the roof top. Grouting material for SPV structures shall be as per M15 (1:2:4) concrete specification. If the module arrays

are installed on ground, proper PCC foundation to be provided and the bottom of the array should be elevated to a height of 1 metre from the ground.

g) The supplier shall specify installation details of the PV modules and the support structures with appropriate diagrams and drawings. Such details shall include, but not limited to, the following :

- a) Determination of true south at the site.
- b) Array tilt angle to the horizontal, with permitted tolerance
- c) Details with drawings for fixing the modules
- d) Details with drawings for fixing the junction/ terminal boxes
- e) Interconnection details inside the junction/ terminal boxes
- f) Structure installation details and drawings
- g) Electrical grounding (earthing as per BIS specifications)
- h) Inter-panel/ inter-row distances with allowed tolerances; and
- i) Safety precautions to be taken.

h) The array structure shall support SPV modules at a given orientation and absorb and transfer the mechanical loads to the rooftop column properly. Detailed design and drawing shall be submitted to MANIREDA for acceptance and approval before execution of work.

8.0 AC Distribution Panel Board :

8.1 AC Distribution Panel Board (DPB) shall control the AC power from inverter and should have necessary surge arrestors.

8.2 Necessary change-over switches (4-pole 2-way for 3-ph and 2-pole 2-way for 1-ph) shall be provided by the supplier to connect the PCU to the load. The change-over switch shall be used to switch the load to utility power.

8.3 Energy meter indicating the energy generated and consumed from the power plant.

9.0 Cables, switches and general requirements:

9.1 PVC insulated copper cables with current rating suitable for AC and DC as per the National Electric Code, and meeting:

a) General Test and Measuring Method as per IEC 60227/ IS 694

b) PVC insulated cables for working voltages up to 1100 V and UV resistant for outdoor installation as per IEC 60502/ IS 1554 (Pt. I & II).

9.2 Cable Marking: All cable/wires are to be marked in proper manner by good quality ferule or by other means so that the cable can be easily identified.

9.3 Switches/ circuit breakers/ connectors meeting general requirements and safety measurements as per IS 60947 Part I, II, III and EN 50521 for AC/DC.

9.4 Junction boxes, enclosures for inverters/ charge controllers shall meet IP 54 (for outdoor)/ IP 21 (for indoor) as per IEC 529.

10.0 Warranty :

10.1 5(Five) years warranty should be provided by the supplier for the system and components or part of the system has to be provided from the manufacturer as per the special conditions of the contract.

10.2 PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90 % at the end of 10years and 80% at the end of 25 years.

10.3 The Warranty/ Guarantee Card to be supplied with the system must contain the details of the system supplied, as given in the Proforma - 6.

11.0 Operation Manual :

11.1 An Operation, Instruction and Maintenance Manual, in English and Malayalam should be provided with the system.

11.2 The following minimum details must be provided in the manual:

- a) About Photovoltaic
- b) About solar power plant – its components and expected performance.
- c) About PV module
- d) About battery
- e) About electronics
- f) About charging and significance of indicators
- g) DO's and DON'T's
- h) Clear instructions on regular maintenance and trouble shooting of solar power plant
- i) Name and address of the contract person in case of non-functionality of the solar power plant.

12.0 Bill of Material :

12.1 The bidder should provide the bill of material mentioning the quantity of each of the item consisting in the system, along with the offer.

13.0 Display board :

13.1 Office of MANIREDA and details of the scheme as specified in the work order and support from government shall be displayed prominently.

14. Site inspection :

14.1 It is recommended that the bidders visit the site for the physical verification and for correctly estimating the quantity, especially related to structure and cabling, before submitting the bids.

Technical specifications shall overall conform to the latest approved configurations of the Ministry of New and Renewable Energy (MNRE), GoI. The successful Bidder/Contractor shall also provide necessary items in the Inverters in order to enable the inverters to export excess energy to the Grid.

Rating	10/25/35 kW
General Data	
Nominal load power	10/25/35 KVA
Max. PV output power	12.5/27.5/37.5 kW
Max. PV input power	Upto 30KWp (10kWp or 18.6A for MPPT1 , 20kWp or 37.2A for MPPT2 whichever is higher)
Max. no. of power modules in parallel	6 / 10 / 10

Max. battery charging power	10 /25/35 kW
PVInput	
Max. PV input DC voltage	1500VDC
PV input current protection	Yes
Working Dc Voltage range	1000 VDC to 1500 VDC
MPPT voltage range	350- 1500 VDC
Start-up voltage/Initial feed-in voltage	320 VDC /350 VDC
Number of MPPT	PV1: 2x18.6,PV2:18.6
PV input voltage protection	Yes
Max. Inv. Backfeed current to array	8 / 30 / 40 Amps
ACInput	
Nominal input voltage	3x400/ 3x600 /230V+N
Auto Restart Voltage	180 VAC per phase
Acceptable Input Voltage Range	170-280 VAC /phase
Input frequency	50 /60Hz
Frequency tolerance (Via grid input)	±5%
AC Input Power	12500VA /10000W; 27500VA /25000W; 37500VA /35000W
Maximum AC Input Current	30 / 40A
Inrush Input Current	30 A, 40A /1ms
GENERATOR INPUT	
Voltage input from Diesel Generator	3x400; 3x600 /230V+N
Acceptable Input Voltage Range	170 to 280 VAC per phase
Acceptable Input frequency Range	40.0 to 60.0Hz
Maximum AC Input current	40A
Maximum export power via grid input	10 / 25 / 35 kW
Output	
Nominal output voltage	230VAC(P-N) /400VAC(P-P)
Output voltage range (grid section)	150-350VAC /phase
Output voltage variation (generator section)	±1%
Output frequency	47.5 to 51.5 Hz or 59.3 to 60.5 Hz
Permissible unbalanced p-pload	100%
Nominal Output Current	21.7/ 40 / 53.3 A
Inrush Current/Duration	25.5 A per phase /20ms
Maximum Output fault Current/Duration	40 A per phase /1ms
Maximum output over current protection	40 A per phase
Power Factor Range	0.9 lead- 0.9 lag
Insulation Level	Transformerless
Output voltage protection	Yes
Battery	
Nominal battery voltage	120/240 VDC
Battery type	VRLA (Gel Type)
Maximum battery charging current	Default-90A,(10A-300Aadjustable)
BATTERY MODE OUTPUT(AC)	
Nominal Output Voltage	230 VAC (P-N / 400VAC(P-P)
Output Frequency	50Hz /60Hz(autosensing)
Output Web form	Pure sine wave
OutputPower	91%
Efficiency (DC to AC)	<15ms(On-Grid mode to off-grid mode)
Transfer Time	≤50ms(On-Grid mode to Off-grid mode)

Transfer time in parallel mode	
Environmental	
Humidity	<90%(Non-condensing)
Ambient temperature (Without derating)	-5 to 50°C
Temperature derating	After 50°C at 1% every degree
Operating ambient temperature range	-10°C to +55°C
Altitude	1000 m
Altitude derating	After 1000 m at 1% every 100m
User interface & remote monitoring	
HMI	Graphical display for control & monitoring
Local & remote monitoring	Yes (Optional), via Wi-Fi/GSM card
Communication Protocol	Via RS2 32/USB for PC Tool Monitoring and CAN
Other interfaces (Optional)	SNMP/MODBUS
Physical	
Dimension(WxDxH)mm	~650 x224x974
Netweight (kgs)	<75
IP Protection	IP21
Certification	
	IEC62116
	IEC61727
	IEC62109-1
	IEC62109
	IEC61000-6-1
	IEC61000-6-3
	IEC61000-3-11
	IEC61000-3-12
	IEC61683
	IEC60068-2-(1,2,6,14,27,30,75,78)
	EN50530

CHAPTER-VII:

FIVE YEARS MAINTENANCE & PERFORMANCE WARRANTY CONTRACT (MPWC)

1.0 The Maintenance and Performance Warranty Contract (MPWC) :

- a. After the works are awarded to the successful Bidder/Bidders, the firm shall enter into a Maintenance & Performance Warranty Contract (MPWC) with MANIREDA which includes the scope of operation and maintenance of the SPV Power Plant for a period of 5(five) years. The date of MPWC period shall begin from the date of actual commissioning of the Solar Power Plant. The Maintenance & Performance Warranty Contract shall include servicing & replacement guarantee for parts and components (such as electronics, PCU/Inverter, Batteries etc.) of Solar Power Plant for 5 years from the date of installation. For PV modules, the replacement guarantee is for 25 years.
- b. The Contractor should keep a trained person permanently (present round the clock) for day today operation, troubleshooting, maintenance etc. at the SERVICE CENTRE for attending any fault as and when occurred.
- c. The maintenance service provided shall ensure proper functioning of the grid connected rooftop SPV Power Plant as a whole. All preventive/routine maintenance and breakdown/corrective

maintenance required for ensuring maximum uptime shall have to be provided by the Contractor. MANIREDA will provide the format of Maintenance sheet for submitting the Performance Report quarterly. The Contractor shall furnish a Performance Report duly attested by the Beneficiary alongwith the hard copy/printout of the daily performance data of the Plant for every quarter (3 months) shall be submitted to MANIREDA quarterly within 15th day of following month during the MPWC period. The MPWC shall have two distinct components as described below.

2.0 Preventive/Routine Maintenance :

2.1 This shall include activities such as, cleaning and checking the health of the SPV Power plant, cleaning of module surface, tightening of all electrical connections, changing of tilt angle of module mounting structure, and any other activity that may be required for proper functioning of the SPV Power Plant as a whole.

3.0 Breakdown/Corrective Maintenance :

3.1 Whenever a complaint is lodged by the consumer, the bidder shall attend to the same within a reasonable period of time 3 days and in any case the breakdown shall be corrected within a period not exceeding 7 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 consumer, system and sub-system serial numbers and records of routine maintenance carried out (duly signed by the consumer). These records shall include voltage, current, specific gravity, indicator charge, inverter 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 Service Center shall send summary service reports to MANIREDA on quarterly basis.

These reports shall include the following information:

(a) Number/Type of components of the Plant covered by the Service Center.

(b) Number/Type of components/systems working satisfactorily on the reporting date.

(c) Number of complaints received during the period of reporting.

(d) Number of complaints attended 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

(g) Hard copy/printout of the daily performance data of the Plant for the last quarter.

3.3 The records maintained at the Service Center shall be available from time to time to MANIREDA.

3.4 The date of MPWC maintenance period shall begin on the date of actual commissioning of the SPV systems. If during the MPWC period, the Solar Power Plant becomes non-functional due to any defect or shortage of spares etc. for a period more than 1 week then the time duration of this non-functional period will be extended in the MPWC period.

3.5 Any payment for release of MPWC charges will not be entertained or put up to Higher Authority of MANIREDA without the Performance Report duly attested by the authority of Beneficiary.

3.6 Bidder shall furnish details of infrastructure that are presently available for establishing of Service Centers.

Proforma - 1

Forwarding Letter

NIB No.: MANIREDA/SPP/DC/2024-25/17:

Dated :

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. MANIREDA/SPP/DC/2024-25/17 for 'Design, manufacture, supply, installation & commissioning including 5(five) years Maintenance and Performance Warrantee Contract (MPWC) of 10 kWp(6 Nos.), 25 kWp(7 Nos.) and 35 kWp(2 Nos.) at different Deputy Commissioner's Offices in Manipur' as per approved specification of MNRE.

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 as indicated below :

Part - I (Technical Proposal): Submitted in original.

Part - II (Financial Component) submitted online in e-tender.

We also confirm that:

1. We are an Indian company/firm.
2. We have never been debarred from executing similar type of work by any Central/ State/ Public Sector Undertaking/Department/Nodal Agency.
3. The Bid Document is downloaded from MANIREDA website and necessary document in support is enclosed.
4. We shall execute the offer/work order as per specifications, terms & conditions of the Bid Documents on award of work.
5. Our offer shall remain valid for placement of purchase orders up to 365 days from the due date of submission of offer.
6. 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 :

Proforma - 2

Authority Letter for Attending Bid Opening Meeting & Signing Bid Document
--

NIB No.: MANIREDA/SPP/DC/2024-25/17 :

Date:.....

To,

The Director
Manipur Renewable Energy Development Agency (MANIREDA),
2nd Floor, South Block, Secured Office Complex, AT Line, Near Hotel Imphal,
Imphal-795001.

Sub: Authority Letter for Attending Bid Opening Meeting & Signing Bid Document.

I hereby authorize (Name & Designation) to attend the **Bid Opening Meeting & sign the Bid Document** (*tick wherever applicable or tick both, if same person is to attend*) to be held on..... at MANIREDA on behalf of our company.

He is also authorized to provide clarifications/confirmations, if any, and such clarifications/confirmations shall be binding on the company. The specimen signature of is attested below.

.....

(Specimen Signature)

Name :
.....

(Signature of Authorized Signatory)

Name : Designation:
Designation :
Company Seal :

Yours faithfully,

(Signature of Authorized Signatory)

Name :
Designation :

Note:

1. To be submitted by bidders on official letter head of the company.

Proforma - 3

Information about the Bidding Firm

NIB No.: MANIREDA/SPP/DC/2024-25/17 :

Date:.....

Sl.	Particulars	
1.	Name of the Bidder	
2.	Address of Bidder with Telephone, Fax, email	
3.	Address of the Registered Office	
4.	Address of the works	
5.	GPS Co-ordinate of Registered Office	
6.	GPS Co-ordinate of Factory Campus	
7.	Name & Designation of Authorized Signatory for Correspondence	
8.	Nature of Firm (Proprietorship/Partnership /Pvt. Ltd./Public Ltd. Co./Public Sector)	
9.	Permanent Account Number (PAN)	
10.	Firm's Registration Number	
11.	EPF Registration No. (if applicable)	
12.	GST Registration Number	
13.	Specify the Item Originally Manufactured	
14.	Year of Starting of Manufacturing/ Assembling of PV Component(s)	
15.	Installed Capacity for Solar Products/ Components/Plant	
16.	Name of Material and Model Type Offered	
17.	Name of Manufacturer of SPPs with Full Address	
	1. Control Electronics/Inverter/PCU	
	2. Battery Bank	
18.	Particulars of Earnest Money	
19.	Quantity Quoted for Solar Power plant	
20.	Name of the Test Center where the testing of Components SPP has been performed	
21.	Test Report No. of components of SPP mentioning date of test	
22.	Specify MNRE specification as in the test report	
23.	Store / Warehouse where Materials will be Available for inspection and installation	
24.	Whether the Bidder has submitted details with regard to supplies made to important organizations.	

25.	Details of any existing service network in Manipur (Name & address of service centre)	
26.	Other details and remarks, if any	

Yours faithfully,

(Signature of Authorized Signatory)

Name : Designation
: Company
seal :

(Separate sheet may be used for giving detailed information in seriatim duly signed. This bid proforma must be submitted duly signed in case separate sheet is submitted).

Proforma - 4

Details of Orders Received and Executed in Past Years

NIB No.: MANIREDA/SPP/DC/2024-25/17:

Date:.....

Details of Orders Received & Executed by the Manufacturer/Supplier for Supply of SPPs to SNA/
Govt. Organization/ Govt. Deptt. during past Years.

Sl. No.	Name of Agency/ Organization	Purchase Order No., Date & Ordered Qty.	Delivery Schedule	Qty. Supplied Within Delivery Schedule	Qty. Supplied After Delivery Schedule	Date of Full Supply

Yours faithfully,

(Signature of Authorized Signatory with
Name Designation & Company Seal)

Note:

- (a) Attach Photocopies of Purchase Orders.
- (b) Attach Photocopies of Certificate of Satisfactory Performance Issued by Concerned Agency/Organization.
- (c) Separate sheet may be used for giving detailed information in seriatim duly signed. This bid proforma must be submitted duly signed in case separate sheet is submitted.

Proforma - 5

No Deviation Certificate

NIB No.: MANIREDA/SPP/DC/2024-25/17 :

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.

Proforma - 6

Format for Guarantee Card

NIB No.: MANIREDA/SPP/DC/2024-25/17

Date:.....

(To be supplied by bidders on the official letter head of the company/firm)

Guarantee Card

Sl. No.	Name & Address of the Manufacturer/ Supplier of the System	
1.	Name & Address of the Purchasing Agency	
2.	Date of Supply of the System	
3.	Details of Solar Modules	
	Name of the Manufacturer	
	Make	
	Model	
	Serial No.	
	Month & Year of Manufacture	
	Guarantee Valid Upto	
4.	Details of Inverter Supplied in the System	
	Name of the Manufacturer	
	Make	
	Model	
	Serial No.	
	Month & Year of Manufacture	
	Guarantee Valid Upto	
5.	Details of Battery Bank	
	Name of the Manufacturer	
	Make	
	Model	
	Serial No.	
	Month & Year of Manufacture	
	Guarantee Valid Upto	
6.	Designation & Address of the Person to be Contacted for Claiming Guarantee Obligations	

(Signature of Authorized Signatory with Name,
Designation & Company Seal)

Proforma - 7

Format of Completion Certificate

Office of the
MANIPUR RENEWABLE ENERGY DEVELOPMENT AGENCY (MANIREDA)
(An Autonomous Govt. Agency under the Department of Power)
2nd Floor, South Block, Secured Office Complex, A.T. Line, Near Imphal Hotel, Imphal - 795001

TO WHOM IT MAY CONCERN

Imphal, dated

No.:MANIREDA: This is to certify that M/s
has Executed the project for installation of kWp Off-Grid SPV Power Plants at
Deputy Commissioners' offices in Manipur including 5 years Maintenance and Performance Warranty
Contract (MPWC) as follows:

Sl. No	Work Order No. & Date	Site Address	Type of System	Capacity	Qty.	Date of Completion
1.		Deputy Commissioners offices in Manipur	Off- Grid SPV Power Plant.		

Work Order Value	Rs.
Executed Work Value	Rs.

The installed SPV power plant is operating satisfactory.

(N. Praveen Singh)
Director, MANIREDA

Copy to:

- (i) M/s(Installing Firm)
- (ii) Guard file.

Proforma - 8

Format for Submitting the Price Schedule

BID No.: MANIREDA/SPP/DC/2024-25/17:

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

Supply, Installation & Commissioning of kW SPV Power Plant at DC offices in Manipur.

Sl. No.	Item	Unit	Total Bid Qty.	Rate (Rs.)	Amount (Rs.)
1.	Project Cost for installation of kWp Off-Grid SPV Power Plants at Deputy Commissioners' offices in Manipur including 5 years Maintenance and Performance Warranty Contract (MPWC).	Set			
2.	Material cost for Design, Supply of kWp SPV power plant comprising of SPV modules, mounting structure, battery bank with rack, hybrid inverter, cabling, earthing etc all completed as per technical specification including packing, forwarding, transport, delivery at site including all accessories as per technical specification @ 75% of Sl. No. 1.	Set			75% of Sl. No.1.
3.	Installation and Commissioning Cost @ 15% of Sl. No. 1.	Set			15% of Sl. No.1.
4.	MPWC Cost for 5 yrs. @ 10% of Sl. No. 1.	Set			10% of Sl. No.1.
5.	GST 12% on Sl. No. 2.	Set			
6.	GST 18% on Sl. No. 3.	Set			
7.	GST 18% on Sl. No. 4.	Set			
8.	Work Order Value to the Firm Sl. Nos. (1+5+6+7)	Set			(1+5+6+7)
9.	State Govt. Charges:				
10.	Labour Cess @1% on Sl. No. 3.	Set			
11.	Contingency Charge @3% on Sl. No. 3.	Set			
12.	Contingency Charge @3% on Sl. No. 4.	Set			
13.	Agency Charge @ 11.75% on Sl. No. 3.	Set			
14.	Grand Total Sl. Nos. (8+10+11+12+13)	Set			(8+10+11+12+13)

• N.B.: Lowest Bidder (L1) shall be accepted for this Price Bid.

Note.:

1. Labour Cess @1% would be deducted at source out of labour charge applicable.
2. Above quoted price 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.
3. The above quoted price is also inclusive of installation, testing, commissioning, performance testing and training at sites of District Head Quarters of Manipur.
4. Certified that rates quoted are as per specifications, terms & conditions mentioned in the bid document.

Yours faithfully,

(Signature of Authorized Signatory)

Name:
Designation:
Firm seal :

Proforma - 9

MATERIALS INSPECTION CLEARANCE CERTIFICATE (MICC)
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- 1. Name of the Work:** 'Design, manufacture, supply, installation & commissioning including 5(five) years Maintenance and Performance Warrantee Contract (MPWC) of 10 kWp(6 Nos.), 25 kWp(7 Nos.) and 35 kWp(2 Nos.) at different Deputy Commissioner's Offices in Manipur' as per approved specification of MNRE.
- 2. Name of Worksite/Location :**
- 3. Name of the Firm/Contractor:**
- 4. Work Order No.:** dated
- 5. Shipment No.**
- 6. Date shipped :**
- 7. Shipped From:**
- 8. Shipped To** Deputy Commissioner's Office,Manipur.

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 (Mono Crystalline 540 Wp or higher with 144 Cells)							
(b)	Module Structure							
2.(a)	Hybrid Inverter							
(b)	Electronics							
3.(a)	Storage battery							
(b)	Battery box							
4.(a)	Distribution Boxes							
(b)	R.C.C. foundation							
5.	Cable							
6.(a)	Manual / Warrantee Card							
(b)	Misc. Items, 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.

11. Inspected on: and jointly by MANIREDA officials and representative of M/sat the office of then DC, /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:
Name:
Designation: Scheme Officer

Signature of authorized MANIREDA representative

Check List 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 three financial years (A summarized sheet of turnover of last three Financial Years certified by registered CA)	
7.	Annexure-VII	Cumulative Experience of the Bidder in executing contracts of Solar Photovoltaic Systems/Solar Luminaries (Installed & Commissioning).	
8..	Annexure-VIII	Overall average turnover of the Firm/Corporation in the last 3(three) financial years should be at least Rs. 4.00 crore (This must be the individual Company's turnover and not that of any group of companies).	
9.	Annexure-IX	Bidder has Test Certificate for at least two of 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 2022).	
10..	Annexure- X	Demand Draft for cost of bid document/photocopy of Demand Draft	
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, which is extendable up to 1 year.	
12.	Proforma -1	Forwarding Letter.	
13.	Proforma -2	Authority Letter for Attending Bid Opening Meeting & Signing Bid Document	
14.	Proforma -3	Information about the Bidding Firm	
15.	Proforma -4	Details of Orders Received and Executed in Past Years	
16.	Proforma -5	No Deviation Certificate	
17.	Proforma - 6	Format for Guarantee Card	
18.	Proforma - 7	Format for completion certificate	
19.	Proforma - 8	Format for Submitting the Price Schedule.	
20.	Proforma - 9	Materials Inspection Clearance Certificate (MICC)	
21.	Annexure	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