TENDER BID DOCUMENT

e-TENDER For

(i)Design & Supply of 13 nos. of 5kWp
SPV Power Plant,
(ii)Installation & Commissioning of
13x5kWp SPV Plant
(iii)5(five) years of Maintenance &
Performance Warrantee Contract (MPWC)
at
13 Treasury Offices in Manipur

NIB No. MANIREDA / SPP / TO /2015/1

Under

Jawaharlal Nehru National Solar Mission
Of
The Ministry of New and Renewable Energy

For the Year 2015-16

Manipur Renewable Energy Development Agency (MANIREDA)

Science & Technology Complex, SAI Road, Takyelpat, Imphal-795001
Ph.: 0385-2444027, 2058535, Fax: 0385-2444027,
e-mail: manireda99@yahoo.com
Website: www.manireda.com

(This tender document is having 38 pages including this page)

Cost of bid document: Rs 1,500/-

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1. Notice Inviting Bid

Manipur Renewable Energy Development Agency (MANIREDA)

Science & Technology Complex, SAI Road, Takyelpat, Imphal-795001

Tele Fax: 0385-2444027; e-mail: manireda99@yahoo.com; Website: www.manireda.com

NIB No.: MANIREDA/SPP/TO/2015/1 Imphal, dated: 25 /11 /2015

Online tenders are invited from the reputed manufacturers of MNRE approved channel partners as per the details given below:

Item	Tender No.	Total	Cost of Tender	Earnest
		capacity	Document	Money
(i) Design & Supply of	MANIREDA/SPP/TO/2015/1	5x13=65kW	Rs1500/-	Rs 3.10 lakhs
13 nos. of 5kWp SPV				
Plant,				
(ii) installation&				
Commissioning of 13x				
5 KW SPV Power Plant.				
(iii) 5yrs Maintenance				
and Performance				
Warrantee Contract				
(MPWC)at 13				
Treasury offices in				
Manipur.				

Tender Document can be downloaded from website:www.manireda.com /www.manipur.gov.in for which the cost of Tender Document amounting Rs 1500/- is to be enclosed as demand draft, in favour of Director, MANIREDA, payable at Imphal during submission of hard copy of tender, failing which, tender shall not be considered. Bidders have to upload their https://manipurtenders.gov.in

Bidders have to upload Bid to the aforesaid website as well as submit hard copy. Uploading of tender documents shall be up to 12.00 noon on 17/12/2015. Hard copy of bid documents and Cost of Tender document and Earnest Money shall be submitted from 12.00 noon of 27/11/2015 to 12.00 noon of 19 /12/2015. The Technical bid shall be opened at 11.00 p.m, on 21/12/2015. The financial bid of the technically qualified Bidders only shall be opened through e-tender, for which date & time will be informed latter.

Prospective bidders are requested to remain updated for any amendments/ modifications/cancellation, etc. in the bid document conditions/terms, in the above mentioned website. 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/-Director, MANIREDA

Bid Details

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

SI	Description	Details
1.	Notice Inviting Bid (NIB) No.	MANIREDA/SPP/TO/2015/1
2.	Scope of work	(i)Design, Manufacturing, supply of 13nos of 5kWp SPV Plant (ii) Installation & commissioning of 5x13kWp SPV Plant (iii) 5(five) years Maintenance and Performance Warrantee Contract (MPWC) of 5kW SPV Power Plant each at 13 Treasury offices of Manipur. Estimated quantity to be installed is 5kW x 13nos.=65kW SPV Power plants. 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 submission of bid documents and address for communication	Manipur Renewable Energy Development Agency (MANIREDA), Room No.84,North Block, Manipur Secretariat, Imphal, PIN No. 795 001, Manipur. Phone No. 0385-2444027; Fax No.: 0385-2444027 Website: www.manireda.com, E-mail: manireda99@yahoo.com
4.	Last date of uploading of bid document in the etender	Date : Up to 12.00 noon of 18th December, 2015. e-tendering site :https://manipurtenders.gov.in
5.	Last date & time of submission of Hard copy of bids	Date : Two working days since last date of Uploading From 12.00 noon of 17th December upto 12.00 noon of 19th December, 2015 Time : Upto 12:00 noon,.(submission of documents after 12.00 noon will not be accepted at any circumstances).
6.	Date & time of opening of Technical Bid	Date : 21st December,2015. Time : at 11.00 A.M. Venue : Office of the Director, MANIREDA, Room No.85, Manipur Secretariat North Block, Imphal.
7.	Date & time of opening of Financial Bid	Financial Bids will be opened for only Technically qualified bidders. Date : Will inform accordingly. Time : - Venue : Office of the Director, MANIREDA, Room No.85, Manipur Secretariat North Block, Imphal.
8.	Cost of bid document (Non-refundable)	Rs 1,500/- in the form of D.D. favouring Director MANIREDA payable at Imphal.
9.	Earnest Money (Refundable)	Rs. 3,10,000/-(Three lakh ten thousand) in the form of D. D. favoring Director MANIREDA, payable at Imphal.
10.	Time of completion	Within five (5) months from the date of work order or date of release of mobilisation advance whichever is applicable
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 from any Nationalized/Scheduled bank. This demand draft shall have validity for at least 3months.

3. Detailed Notice Inviting Bid (DNIB)

Manipur Renewable Energy Development Agency (MANIREDA)

Science & Technology Complex, SAI Road, Takyelpat, Imphal-795001
Ph.: 0385-2444027,2058535, Fax: 0385-2444027, e-mail: manireda99@yahoo.com
Website: www.manireda.com

NIB No.: MANIREDA/SPP/TO/2015/1 Date:25/11/2015

Sub: (i)Design, Manufacturing, supply of 13nos of 5kWp SPV Plant

- (ii) Installation & commissioning of 5x13kWp SPV Plant
- (iii)5(five) years Maintenance and Performance Warrantee Contract (MPWC) of 5kW SPV Power Plant each at 13 Treasury offices of Manipur under Jawaharlal Nehru National Solar Mission(JNNSM) scheme of MNRE.GOI.

Dear Sir/Madam,

Manipur Renewable Energy Development Agency (MANIREDA), Imphal has the pleasure in inviting offers from eligible Indian manufacturers 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 20 chapters 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.
- 2. Cost of Bid Document
- 2.1 Bidders can download the bid document from MANIREDA website (www.manireda.com) or www.manipur.gov.in/https://manipurtenders.gov.in) and submit the cost of the bid document amounting Rs 1500/-, 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 in Technical Bid the earnest money in the form of Demand Draft from a Nationalised Bank/scheduled bank of requisite value as mentioned in chapter 2 (Bid Details).
- 3.2 Bidders failing to submit earnest money will be rejected.
- 3.3 The request for adjustment of earlier dues in place of earnest money will not be entertained.
- 3.4 The earnest money shall be returned to all unsuccessful bidders in technical evaluation, within three weeks.
- 3.5 The earnest money shall be forfeited if
 - a. Any bidder withdraws his bid or resides from his offer during the validity period.
 - b. The successful bidder fails to furnish his acceptance of the Order within twenty days of placement of Work Order 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 approved by Director, MANIREDA. This approval will also have a cut-off date by which the entire work will have to be completed.
- 3.6 The earnest money shall be refunded to the successful bidder after completion of the project in

all respect.

4. Performance Guarantee

4.1 Performance warranty Bond shall be deposited by the supplier @5% of the Contract price excluding Installation & Commissioning and MPWC in the form of Bank Guarantee for 5(five) years period from the date of completion & commissioning of the project OR in case Bank Guarantee is not furnished, 5% of the Contract price excluding Installation & Commissioning and MPWC shall be retained as Performance Guarantee. If the solar power plant failed to perform as per laid down system specifications or any deviations/compromise has been observed in the system specifications etc the performance Warrantee deposit of the firm shall be forfeited.

5. Submission of Bids:

Bidders have to upload the document mentioned in Para 6.1 in the e-tender website (https://manipurtenders.gov.in). Bidders shall also have to submit hard copies of the uploaded documents as well as stated at Para 6.4 & 6.5:

- 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 Proforma will lead to rejection of the bid application.
- 5.5 The offer shall contain no erasures or 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 Hard copy of Bid Document should be submitted in Hard Bond or Spiral Binding.
- 5.7 The Bid Document should have proper paging and flagging of Annexures/details.
- 5.8 Any Overwriting /illegible/erasing, etc. in the documents submitted by the firms shall not be accepted and will not be considered in the evaluation.
- 6. Mode of Submission of Bids: Bidders have to both upload document as well as submit hard copy as stated below:
- 6.1 The bidder shall submit/upload the scanned copies of the following documents with Digital Signature certificate in the E-tender:
- (i) Scanned copy of Tender Fee and scanned copy of Earnest Money Deposit(EMD)
- (ii) Forwarding Letter- Proforma -1
- (iii) Authorising 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-Proforma-4
- (vi)Document for being valid Channel Partner of MNRE for Off-Grid and De-Centralised Solar applications under JNNSM(SPV) with credit rating
- (vii) Certificate of manufacturing SPV Cell/Module or Battery or PV system Electronics/Inverter conforming relevant national/international standards
- (viii) Test Reports of components like PV module, Inverter, Battery from approved/competent testing centres.
- (ix) A statement of Cumulative experience of bidders not less than tender value and equivalent capacity of 65KW whose work order issued in the name of the bidder.
- (x) A summarized sheet of turnover certified by registered Chartered Accountant.
- (xi) Letter of authorized dealer/service provider registered as per MVAT Act in Manipur

- (xii) ISO 9001 certificate
- (xiii)ISO 14001 certificate.
- 6.2. The bidder shall download the template of Price Bid/Schedule of Works /Bill of Quantity(BOQ) as mentioned in the Proforma-9 which is uploaded in the Tender in the aforesaid site(https://manipurtenders.gov.in). After downloading the BOQ, the bidder shall fill their rate & quantity of the items as per BOQ, digitally signed and upload the filled BOQ in the same site.
- 6.3. The bidder need not submit BOQ/Price Bid in hard copy as done in previous tenders.
- 6.4. The bidder also must submit Hard copy of documents stated above at Para 6.1(i) to 6.1(xii) with all supporting document like copies of work orders in support of cumulative experience clearly indicating Amount and capacity of work.
- 6.5 In addition, the bidder must submit hard copy of other remaining Proformas and Annexures as listed in the Check list with supporting documents.
- 6.6 The hard copy of Technical Bid should be submitted in a sealed envelope superscribed "NIB No.: MANIREDA/SPP/TO/2015/1 (Technical Bid)", to the office of MANIREDA, Secretariat North Block, Room No. 85 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 web site).
 - (ii) Original earnest money by demand Draft of requisite value.
- 6.6 Technical Bid should not contain price of any item. Such cases, even if found anywhere, shall not be given any cognizance.
- 6.7 Only one copy of Technical Bid (hard copy) should be submitted.
- 6.8 The hard copy with earnest money and cost of tender document has to be submitted during the period from 12.00 noon of 17/12/15 upto 12.00 noon of 19/12/15(two working days) failing which no late comers would be entertained.

7.0 Scope of Work

- 7.1 The scope of work shall be as indicated in the Bid Details.
- 7.2 MANIREDA reserves absolute rights to distribute the total number of SPPs 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 SPPs required at the 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 should be capable and agreed to install the SPPs at any of 13 identified Treasury offices in the state. MANIREDA reserves the right to award work/part of the work, to any bidders at any Treasury Offices at its discretion.
- 7.7 The bidders should beforehand thoroughly familiarized with the 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/price/cost of the work due to any reason will not be entertained at any circumstances.
- 7.9 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.

8.0 Price

8.1 The Bidder shall quote price as per Proforma - 9. 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, 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.

10.0 Authority of Person Signing the Documents

- 10.1 Authorization letter as per Proforma 2 with the seal of the company for the person signing the bid document or attending the bid opening meeting should be furnished.
- 10.2 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.

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 Manufacturing Company/Firm/Corporation in India of SPV Cells / Modules Or Battery Or PV System Electronic (Conforming to relevant National / International Standards) having at least one or more Solar Photovoltaic Power Plant (s) aggregating to a total of 65 KWp capacity should have been installed / commissioned)

- 12.2 The bidder should be a MNRE accredited off-Grid Channel Partner having credit rating(from MNRE Accredited Rating Agency).
- 12.3 Bidder should have Test Certificate for the components of tendered 5 kWp Solar Power Plant like PCU/Inverter, PV module, battery etc from an approved/competent testing centres as per requirements under the JNNSM scheme of the MNRE, GOI.
- 12.4 Cumulative Experience of the Bidder in executing contracts of Solar Power plants(Installed & Commissioned)should be equivalent of the tender value(65kW)(Copies of work orders must be enclosed to support the cumulative experience). Bidder's experience should be work order awarded in the name of the bidder.
- 12.5 The Bidder should have valid CST /State VAT/ TIN registration certificate. A copy of which should be enclosed.
- 12.6 Overall Average Annual Turnover of the Company/Firm/ Corporation in the last two financial years should be at least 3.00 crore. This must be the individual Company's t u r n o v e r and not that of any group of Companies .(A summarized sheet of turnover certified by registered CA should be compulsorily enclosed)
- 12.7 The Bidder should have registered office/authorized dealer/service network in Manipur as per MVAT Act 2005 and for smooth execution of MPWC, in place before award of contract.
- 12.8 The bidder should have ISO 9001 certification
- 12.9 The bidder should have ISO 14001 certification.

13.0 Validity of Offer

13.1 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.

14.0 Other Terms & Conditions

- 14.1 Insertion, post-script, addition and alteration in Hard Copy shall not be recognized unless confirmed by bidder's signature and stamp.
- 14.2 Incomplete tender or tenders not submitted as per requirement as indicated in the NIB are likely to be rejected.
- 14.3 Bidders shall submit their offer strictly as per terms and conditions of the tender document without any deviation.
- 14.4 If at any time any of the documents/information submitted by the bidder is found to be incorrect, false or untruthful, the resultant order may be summarily rejected/cancelled at the risk of the bidder.
- 14.5 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.
- 14.6 All bids(hard copy) 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.
- 14.7 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.
- 14.8 Attestation of various documents enclosed along with the offer must be done by a Gazetted Officer or Notary Public.
- 14.9 The bidder must fulfill both uploading documents and submission of hard copy in the manner mentioned above.

4. General Terms & Conditions

1.0 Scope of Work

1.1 The Scope of work for 5kW SPV Power Plant includes (i)Design, manufacturing, shop testing, packing & forwarding, transportation, transit insurance, supply of 13 nos. of 5kWp SPV Power Plant at identified sites via transist godown of MANIREDA for checking/store entry,(ii) installation, testing & commissioning of 5kWp SPV Plant each at 13 Treasury offices & (iii)5 years Maintenance Performance Warrantee Contract (MPWC) of SPPs complete in all respects along with one set of operational instruction cum maintenance manual (in English) for each set as per the direction of MANIREDA. The list of destinations/sites are enclosed as Annexure.

2.0 Opening and Evaluation of Bids

- 2.1 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, Room No. 85, North Block, Manipur Secretariat, 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 in the Proforma 2.
- 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 Financial 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 Financial Bid of only those bidders, whose Technical Bid 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.com) regularly and keep themselves informed.
- 2.5 The prices shall be evaluated for SPV Power Plant on the Total Price(P):- (a). System cost including CST, insurance, , transportation etc FOR at 13nos.Treasury Offices, (b). Installation & Commissioning including VAT,Labour Cess, Service charge etc and (c). MPWC for 5 years period including service charge).

- 2.6 The bidders shall be ranked L1, L2, L3as 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 approved rate.
- 2.7 MANIREDA, if required, may at its discretion extend the scheduled date of opening of Financial Bid.

3.0 Award of Contract/Work Order

3.1 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/Higher Tender Committee to undertake the work at the approved rate.

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.

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 Purchase/Work Order whichever is earlier.

6.0 Contract Price

- 6.1 The total contract price & rates of SPPs and 5 years MPWC. in full and complete set including SPV module, control electronics & inverter, battery, mechanical components, etc. should be quoted in Proforma -9. The price shall be for the total scope as defined in this document.
- 6.2 The income tax shall be deducted as applicable at the existing rate.
- 6.3 During the period of the contract, MANIREDA may order addition/deletion in quantities which the bidder shall comply. The adjustment in Contract Price shall be made at the same unit rate as per Price Schedule (Proforma 9).

7.0 Terms of Payment

- 7.1 Subject to any deductions which MANIREDA may be authorized to make under the terms of the order, the Contract Price shall be payable as given below:
 - (a) Mobilisation advance upto 30% of the ordered value excluding the cost of installation & commissioning and MPWC charges shall be released against submission of bank guarantee of equivalent amount from nationalized bank after verification and subject to availability of fund from MNRE,GOI or other sources.
 - (b) 40% of the Contract price(excluding installation and commissioning & MPWC charges)or 70% if the mobilisation advance is not taken, shall be paid against duly verified successful supply of the systems in full and working condition after submission of the following documents subject to availability of fund from MNRE,GOI or other sources:
 - 1. Certificate of delivery of the number of SPPs(Complete set) received by the consignee as specified in Proforma 7.
 - 2. Commercial invoice of the supply made in triplicate.
 - 3. Copy of delivery challan/transportation challan/lorry receipt.
 - (c) Remaining 30% of the Contract price(excluding installation and commissioning & MPWC charges) and 100% of the installation and commissioning charges shall be paid against duly verified completion report with successful installation and commissioning of the systems after submission of the following documents subject to availability of fund from MNRE,GOI or other sources:
 - Location-wise detail of the module, battery & PCU/Inverter utilization report of SPPs installed under the SPV Program as specified in Proforma-8
 - 2. Verification of Certificate of Commissioning from the beneficiary countersigned by officer concerned.
 - 3. Photographs along with details of module, battery, inverter/PCU etc. installed in

soft copy(CD/DVD).

- If the Performance Guarantee is not furnished in the form of Bank Guarantee,5% of the contract price excluding Installation & Commissioning and MPWC would be retained as performance Guarantee for 5yrs.
- (d) Payment for MPWC shall be released on 5 equal yearly installments on satisfactory performance and submission of MPWC report countersigned by beneficiary.

All payments shall be released by MANIREDA through account Payee Cheque issued in favour of the Supplier/Contractor 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:

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

8.0 Income Tax:

8.1 Without prejudice to the obligations of the Supplier/Contractor under law, any Income Tax, which MANIREDA may be required to deduct by law/statute, shall be deducted at source and shall be paid to the Income Tax authorities on account of the Supplier. MANIREDA shall provide the Supplier a certificate for such deduction of tax.

9.0 Statutory Variations in Taxes and Duties:

- 9.1 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.
- 9.2 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.

10.0 Agreement:

10.1 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.

11.0 Inspection of the Factory and Tests:

- 11.1 MANIREDA reserves the right to inspect the manufacturer's works/factory to ascertain the capability/availability of necessary equipment & infrastructure required for manufacture of the item offered before opening of the Financial Bid of the bidders.
- 11.2 MANIREDA shall have access and right to inspect the work or any part thereof at any stage.
- 11.3 MANIREDA shall have the right to inspect and test the goods to confirm their conformity to the technical specifications after delivery of goods to consignee.
- 11.4 Successful bidder shall inform MANIREDA at least 25 days in advance of schedule dispatch.

12.0 Dispatch Instructions:

12.1 All items/equipments may be subjected to pre-dispatch inspection by Director, MANIREDA or its 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.

13.0 Transit Insurance:

13.1 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.

14.0 After Sales Service and Availability of Spare Parts:

14.1 The Supplier shall depute authorized Service Engineer within 3 days from the date of the intimation of fault, and establish sufficient inventory of spares, 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. Address, contact number etc. of the Servicing centre must be submitted before commencement of the work.

15.0 Completion Schedule:

15.1 The delivery of goods at FOR destination in full as per the terms and conditions of the contract/order shall be completed within **five (5) months** from the date of issue of the Work Order whichever is earlier.

16.0 Guarantee/Warranty Period:

- 16.1 The manufacturer must provide guarantee which include servicing & replacement guarantee for parts and components (such as battery, electronics, inverter etc) of Solar Power Plant for 5 (five) years. For PV modules, it must be warranted for its 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 from the date of commissioning the SPPs at site & demonstration of performance to the consignee/MANIREDA.
- 16.2 The guarantee card to be supplied with the system must contain the details of the system supplied as given in the Proforma 6. The manufacturers can also provide additional information about the system and condition of guarantee as necessary.
- 16.3 Supplier/contractor shall without prejudice to any other clauses of the order repair/replace 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.

17.0 Assignment/Sub Letting/Pre Bidding Tie Up:

- 17.1 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.
- 17.2 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.
- 17.3 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 subvendor. However, the total responsibility of work will remain with the prime bidder.

18.0 Liquidated Damages for Delay in Completion:

- 18.1 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.
- 18.2 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 3 months of such delay, or part thereof, subject to maximum of 2% of the Total Contract Value.
- 18.3 The liquidated damages for delayed completion shall be recovered from the Supplier's Bill/Bank Guarantee deposited as earnest money.
- 18.4 Deductions/payment of liquidated damages shall in no way relieve the Supplier from his

contractual responsibility to complete the works.

19.0 Cancellation of Order:

- 19.1 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 warrantee contract as per the provisions mentioned in this bid document.
 - (c) If the Supplier/Vendor is involved in any action of moral turpitude.

20.0 Arbitration:

- 20.1 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.
- 20.2 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.
- 20.3 The venue of arbitration proceeding shall be within Jurisdiction of Court of Law at Imphal only.
- 20.4 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.

21.0 Force Majeure:

- 21.1 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, acts of foreign enemy, 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.
- 21.2 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.
- 21.3 The above-mentioned force majeure conditions/clause shall also apply in the works of sub-contractors/suppliers of the contractor.
- 21.4 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.

5. TECHNICAL SPECIFICATION

Specification of SPV Module and Array

1. Module Type : Poly Crystalline Sillicon Terrestrial PV Module

2. Cell Type : Poly Crystalline Sillicon Solar Cell

3. Module Make : IEC certified.

4. Cell Size :> or =156 mm X 156 mm.

5. Nominal Voltage : 24.0 V

6. Vmax : More than 30.0 V

7. Open Circuit Voltage (Voc at STC): More than 36.0 V8. Short Circuit Current (Isc at STC): Minimum 8.5 A

9. Imax : Minimum 7.9 A

10. Rating at STC : Minimum output of 250 Wp

11. Module Efficiency $: \ge 14.0 \%$ 12. System Voltage (Vsys): 1000 Vdc13. Nos. of Cell per module: 60 Nos.

14. RFID Tag : RF Identification tag (RFID) use inside the module,

which will be contain the following information:

a) Name of the manufacturer of PV Module

b) Name of the manufacturer of Solar Cells

c) Month and year of the manufacture (Solar Cell & Module)

d) Country of Origin (Solar Cell & Module)

e) I-V curve for the module

f) Peak Wattage, Im, Vm and FF for the module

g) Unique Serial No. & Module No. of the Module

h) Model or Type Number

i) Date & year of obtaining IEC PV Module Qualification Certificate

j) Name of the Test Lab issuing IEC Certificate

k) Other relevant information on traceability of the Solar Cell & Modules as per ISO 9000 series.

15. Standard : IEC 61215 and IEC 61730-1 & IEC 61730-2

16. Test certificate issuing authority: IEC Accredited Testing Laboratories

17. Manufacture Certificate : ISO 9001: 2008, ISO 14001:2004.

Monogram:

Monogram of MANIREDA along with following details in English script to be screen printed in indelible ink or paint on the back side of each PV module:

- Solar Photo Voltaic Program 2015-16(5kWp SPP)
- Not for sale or transfer
- Statutory action would be taken by MANIREDA, if it is found sold or transferred under different Sections of IPC

Warranty:

PV modules used in solar PV 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.

SPECIFICATION OF SPV MODULE MOUNTING STRUCTURE

The module mounting structure is made of hot dip galvanized MS angles. The mounting structure will be designed to allow easy replacement of any module.

The legs of the structures will be fixed and grouted in RCC foundation columns made with 1:2:4 cement concrete. The foundation should be capable to with stand module assembly as well as maximum wind speed of 200 km/hour.

The details specifications are as follows:-

1. Type : Hot deep galvanized minimum 85 microns

2. Material : MS Angle

3. Section : Minimum 40 mm. X 40 mm. X 6 mm.

4. Tilt angle : with Latitude(22 degree)5. Direction : True South at the site.

6. Nut & Bolt : Stainless steel7. Specification : As per IS

8. Civil Foundation : Structure to be capable of withstanding a wind load of 200 km/hr.

9. Drawing : As per actual

SPECIFICATION OF COMBINER BOX

The Combiner boxes are a combination of Array sub JB & Array Main JB. It shall be dust, vermin and waterproof and made of FRP/Poly carbonate. The terminals will be connected to copper busbar arrangement of proper sizes to be provided with rubber gasket to prevent water entry. The junction boxes will have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables with provision of earthing. Suitable markings shall be provided on the bus-bar for easy identification and cable ferrules will be fitted at the cable termination points for identification. Suitable arrangement shall be provided for connecting 'Reverse Blocking Diodes' in the Array junction Boxes. MOV will be fitted for surge protection.

Drawing : As per actual

SPECIFICATION OF DCDB/BATTERY PROTECTION PANEL

This shall consist of box of suitable powder coated metal casting. In this box, a separate arrangement which shall consist of 2 Nos MCBs of suitable specification which can withstand respective flow of current, with the purpose of providing the option for isolating the battery bank & SPV arrays should be made. There shall be copper bus bars of suitable rating. Proper rating HRC fuse & MCB/Isolator for DC application should be suitably installed in DCDB as battery bank isolator.

The details specifications are as follows:-

Enclosure material
 M.S with Powder coated
 Wall mounting type

3. Cable entry : Bottom

4. MCB
 5. DC Am-meter
 6. DC Volt Meter
 7. DC Shunt
 8. Accessories
 2 Nos. (63A DP)
 1 Nos. (0-75A)
 1 No. (0-150V)
 2 No. (75A)
 3 As per requirement

9. Drawing : As per actual

<u>SPECIFICATION OF POWER CONDITIONING UNIT</u> (CHARGE CONTROLLER &INVERTER)

As SPV array produces direct current (DC), it is necessary to convert this to alternating current (AC) and adjust the voltage & frequency levels to suit the local grid condition. Conversion shall be achieved using an electronic inverter and the associated control and protection devices. All these components of the system are termed the Power Conditioning Unit or simply the PCU. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), to maximize Solar PV array energy input into the system. PCU refers to combination of Charge controller and inverter and shall be supplied as integrated unit or different units of charge controller and inverter depending on rating & size of the power plant. 5 KVA PCU with grid interactive shall feed power to the A.C load in the Treasury offices of Manipur.

The details specifications are as follows:-

Sl. No.	Operating Parameter	Desired specification	
01.	Manufacturer	G.P.Tronics /Phocos India Pvt Ltd or any other reputed make	
02.	Rating of PCU	5 KVA 230 V AC sine wave with inbuilt MPPT Charge Controller suitable to charge 96V 300 AH Battery Bank	
03.	Control Type	Voltage Source, Microprocessor assisted, Output regulation	
04.	Power Control	MPPT	
05.	Output Voltage	1 Ø, 230V AC, adjustable up to 250V (+12.5%, -20% V AC)	
06.	Frequency	50 Hz, ±0.5 Hz	
07.	DC Link Voltage Range	0 to 600 V (Nominal)	
08.	Power	5 kVA	
09.	Total Harmonic Distortion	Less than 3%	
10.	Efficiency	90% and above at full load	
11.	Operating Temperature Range	0°C to 55°C	
12.	Housing Cabinet	PCU to be housed in suitable switch cabinet with Protection Class - IP20	
13.	Over Load Capacity	200% of continuous rating for 10 sec.	
14.	Over Load Protection	Auto Reset	
15.	Protections	 Grid Over / Under Voltage Grid Over / Under Frequency Inverter Overload Unbalance Output load Short Circuit (line-to-line & line-to-ground) Battery Low / High Shutdown Solar / Battery Reverse 	
16.	Display	 Front Panel of PCU Displaying: Battery Voltage & Current PV Voltage, Current, Instantaneous Power (kW), Instantaneous Energy (kWh) Inverter Output Voltage, Current and Power 	

		 (kVA) Grid Voltage, Current Battery Charging and Discharging Status and Charge Level Indicator 	
17.	Front Panel LED Indicators	 System ON Inverter ON SPV Charging Mains Charging Battery Low System Fault 	
18.	Dielectric strength	1.1 kV between input/output with ground with EMI protections & 1.5 kV between input and output.	
19.	Standard	As per MNRE Guidelines and conforms to IEC 61683 and IEC 60068 – 2 (1,2,14,30) / Equivalent BIS Std.	

CHARGE CONTROLLING UNIT

Charge Controller shall be Pulse Width Modulation type, suitable for charging 96V 300AH Battery Bank from 5 kWp Solar PV Array. The charging sequence from SPV Array shall be perfectly matched with battery bank characteristics. Charge controller also protects respective battery banks connected with each charge controller during charging & discharging of batteries.

The details specifications are as follows:-

Sl. No.	Operating Parameter	Desired specification
01.	Input	5 kWp, 96V nominal DC Solar PV Array
02.	Output	Suitable for charging 96V nominal battery bank
03.	Protection	 Short circuit Deep discharge Input surge voltage Over current Battery reverse polarity Solar array reverse polarity
04.	Indication	 Input ON Control ON Charger ON Charger over load Battery on Trickle Charging Battery Disconnected/Fault
05.	MIMIC Diagram	To indicate power flow and operation of the charge controller/battery charger shall have provision for visual indications of existing power input/output through MIMIC diagram.
06.	Instrumentation	 Charging & Discharging Current Charging & Discharging Voltage Charging & Discharging AH
07.	Dielectric Strength	1.1 k between Input/Output & ground with EMI protection removed

08.	Ambient Temperature	50°C
09.	Operating Humidity	100% maximum
10.	Finish	Epoxy Powder Coating

INVERTER

The details specifications are as follows:-

Sl. No.	Operating Parameter	Desired specification	
01.	Input Voltage	96V, DC (Nominal)	
02.	Output Voltage	230V. Output Voltage should be adjustable up to 250V	
03.	Wave form	Sine Wave, 1 Ø, 2 Wire	
04.	THD	<3%	
05.	Maximum current Ripple	4% PP	
06	Reactive Power	0.95 Inductive to 0.95 Capacitive	
07.	Frequency	50 Hz, ±0.5 Hz	
08.	Output	5 kVA	
09.	Dielectric Strength	1.1 k between Input/Output & ground with EMI protection & 1.5 kV between input and output	
10.	Instrumentation	Input Voltage & CurrentOutput Voltage & CurrentFrequency	
11.	Status Indication	 Input Output Inverter ON Inverter TRIP Inverter FAULT Inverter OFF 	
12	Fault Indication	Visual indication with blinking super glowing LED audio	
13	Protection	 Short circuit Battery Low Voltage AC Over Current Lighting Surge in Output Over Load 	

SPECIFICATION BATTERY BANK

96V Tubular VRLA GEL type Battery Bank having a storage capacity of 300AH. The Battery Bank should be comprised of 48 nos. of 2V 300Ah each (under Standard Test Condition), Tubular VRLA GEL type Battery having long service life (minimum 5 years).

Battery Bank connection to the PCU is taken through DCDB for preventing damage to the battery.

The details specifications are as follows:-

1. Manufacturer : Exide Industries Ltd./HBL Power Systems

2. Battery Type : Tubular VRLA GEL type Battery having long service life

(Minimum 5 years)

3. Battery Bank (V & AH) : 96 V 300 AH (@C/10 at 27°C)

4. Cell (V & AH) : 2V 300AH (@C/10 at 27°C) with

end cut off Voltage 1.80V

5. Terminal of Cell : Insulated Cover

6. Safety Vent : Fitted with explosion proof safety vents plug.

7. Self discharge rate : < 5% per month at 20°C and < 8% per month at 30°C

8. Charge Efficiency : More than 90% up to 70% state of charge

9. Container : Polypropylene /Hard Rubber with carrying handle.10. Cover : Protective cover of Polypropylene/ hard rubber

11. Max Depth of Discharge : 80% (@C/10 12. Standard : As per BIS Std.

13. Rack : Suitable size and adequately strong Battery Rack should

be supplied with each Battery Bank

SPECIFICATION AC DISTRIBUTION BOX (ACDB)

ACDB should be connected between PCU and Load. This shall consist of box of suitable powder coated metal casting. One feeder to be provided in ACDB with MCB of suitable capacity installed in the ACDB. One Electronic Energy Meter, ISI mark, Single Phase, of good quality to be installed in ACDB suitably placed to measure the consumption of power from SPV Power Plant.

The details specifications are as follows:-

1. Enclosure material : M.S with Powder coated

2. Mounted type : Wall mounting type

3. Cable entry : Bottom

4. MCB
5. MCB
6. MCB (inconnection & disconnection of PCU and Load inconnection)
6. MCB (inconnection)
7. MCB (inconnection)
8. MCB

6. Accessories : As per requirement

7. Drawing : Attached

SPECIFICATION CHANGE OVER SWITCH

A separate change over switch of 1Ø, 32A 230V should be suitably installed out site of the ACDB to isolate the existing connected load from the SPV system and cater the power to the existing load from conventional/grid line, in case of emergency.

SPECIFICATION OF LIGHTNING & OVER VOLTAGE PROTECTION

The SPV Power Plant is to be provided with lightning and over voltage protection connected with proper earth pits. The lightning conductor is made of 25 mm diameter, 3500 mm. long GI spike as per provisions of IS. The lightning conductor is earthed through 20mm X 3mm thick GI flat with earth pits/earth bus made with 20 mm X 5 mm thick GI flats/Suitable GI wire .

Drawing : AS PER ACTUAL

SPECIFICATION OF EARTHING SYSTEM

The earthing for array and distribution system to be made with GI pipe, 4 M long 40 mm diameter including accessories, and providing masonry enclosure with cast iron cover plate having locking arrangement, watering pipe using charcoal or coke and salt as require as per provisions of IS.

Necessary provision shall be made for bolted isolating joints of each earthing pit for periodic checking of earth resistance.

The earthing for the power plant equipment to be made with copper plate (500mm X 500mm X 3mm) thick including accessories, masonry enclosure with cover plate having locking arrangement and water pipe etc using charcoal or coke and salt as per provisions of relevant IS. The earth condition shall run through GI pipe partly buried and partly on the surface of the control room building.

Each array structure of the PV yard, Inverter and all other equipment to be grounded properly. The array structures are to be connected to the earth pit through (20mm X 5mm) GI strip.

Drawing : As per actual

SPECIFICATION OF CABLE

The length of cable shown is indicative & actual length may vary depending on layout, design & site condition.

The wiring for module inter connection should be hard PVC conduit of BIS approve make. All Tees, Bends etc. should be BIS approve make hard PVC material.

The details specifications are as follows:-

1. Type of Cable : PVC insulated Sheathed

2. Materials : Copper multi core PVC insulated

3. Working voltage4. GradeUp to 1100 V1.1 kV

5. Colour
6. Temperature
7. Standard
10. To suit Red, Black, Blue
11. -15 deg. C to + 70 deg. C
12. IS 694-1990 or IS 1554 (Part-I)

8. Cable Size & Schedule : 1CX4 Sq. mm, 2CX16 Sq mm, 1CX25 Sq mm, 2CX6 Sq. mm.

SPECIFICATION OF FIRE EXTINGUISHERS

The dry chemical fire extinguishers to be installed at each power plant. The fire extinguisher should be suitable for fighting fire of Oils, Solvents, Gases, Paints, Varnishes, Electrical Wiring, Live Machinery Fire, all Flammable Liquid & Gas.

The details specifications are as follows:-

1. Type : Dry Chemical Fire Extinguishers

2. Capacity : 4 Kg.

3. Standard : IS 2171.7, IS 10658

SPECIFICATION OF SAND BUCKTS

The sand bucket to be wall mounted made from at least 24 SWG sheet with bracket fixing on wall conforming IS 2546.

SPECIFICATION OF DANGER PLATES

Danger plate to be installed wherever require as per Indian IE rule. The Danger plate should be vitreous enamelled white on both sides, and with inscription in signal red colours on front side as required. The inscription should be in Manipur (Bengali script) and English.

The details specifications are as follows:-

1. Size : 200 mm X 150 mm X 2 mm.

2. Material : M.S

SPECIFICATION OF EXHAUST FAN

The exhaust fan shall be fitted in the battery room and the control room. The exhaust fans shall be 250 mm in diameter and suitable for AC 230 V, 50 Hz supply.

SPECIFICATION OF WIRING MATERIALS

Control room wiring to be done by casing capping type 2C X 2.5 Sq. mm PVC insulated 1.1 KV grade Cu wire.

22.0 Documentation

- 22.1 An operation, instruction, maintenance manual in English should be provided with the Solar Power Plant. The following minimum details must be provided in the manual:
 - (i) About Photovoltaic
 - (ii) About Solar Power Plant its components and expected performance
 - (iii) About PV Module. In case of imported modules it is mandatory to provide a copy of the international product qualification certificate to the test centre
 - (iv) About PCU/Inverter. The make, model number and technical characteristics of PCU/Inverter should be stated in the product data sheet and furnished to the test centers
 - (v) About Battery and electronics used
 - (vi) Clear instructions about Mounting of PV Module(s)
 - (vii) About Electronics
 - (viii) About Charging and Significance of Indicators.
 - (ix) DO's and DON'Ts
 - (x) Clear instructions on operation, Regular Maintenance and Trouble Shooting of SPP
 - (xi) Name and address of the person or service center to be contacted in case of failure or complaint.

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

1.0 The Maintenance and Performance Warrantee Contract (MPWC)

1.1 After the works are awarded to the successful Bidder/Bidders, he/they enter into a Maintenance and Performance Warrantee Contract (MPWC) with MANIREDA which includes the scope of operation and maintenance of the SPV Power Plants 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 and Performance Warrantee Contract shall include

servicing & replacement guarantee for parts and components (such as battery, electronics, PCU/Inverter, etc) of Solar Power Plant for 5 years from the date of installation. For PV modules, the replacement guarantee is for 25 years.

The contractor should train a person preferably staff of the Treasury office for day today operation, troubleshooting, maintenance etc. at each Treasury office during the MPWC period.

1.2 The maintenance service provided shall ensure proper functioning of the 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 Supplier. The Contractor shall furnish a Performance Report duly attested by the authority of Beneficiary Organisation/Officer in charge of the Treasury office for each worksite quarterly (every three months) to MANIREDA within 15th day of following month. The Maintenance and Performance Warrantee Contract (PWMC) 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, 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 Power Plant as a whole.

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 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
 - 1. Adequately trained manpower, specifically trained by the bidder for carrying out the service activities.
 - 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.
 - 3. Adequate spares and manpower for ensuring least down time of an individual system.
 - 4. The Service Center shall send summary service reports to MANIREDA on half yearly basis. These reports shall include the following information:
 - (a) Number of Plant/systems covered by the Service Center
 - (b) Number of SPP/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 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.
- 3.5 Bidder shall furnish details of infrastructure that are presently available for establishing of Service Centers.

7. Proforma – 1

Forwarding Letter

NIB No.: MANIREDA /SPP/TO/2015/1

To,

The Director

Manipur Renewable Energy Development Agency (MANIREDA) Science & Technology Complex, SAI Road, Takyelpat Imphal-795001

Sub: Offer In Response to Notice Inviting Bid No. MANIREDA/SPP/TO/2015/1 for Design, Manufacturing, Supply, Installation, Testing & Commissioning Including 5 Years Maintenance and Performance Warrantee Contract (MPWC) of SPPs Under Solar Photovoltaic Programme

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 sealed envelopes duly marked as indicated below:

(Technical Proposal): Submitted in original

The Financial Proposal is submitted online in e-tender

We also confirm that:

- 2. We are an Indian company/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 Central/ State/ Public Sector Undertaking/Department/Nodal Agency.
- 5. The Bid Document is downloaded from MANIREDA website 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 :
Company Seal :

8. Proforma - 2

Authority Letter for Signing Bid Document & Attending Bid Opening Meeting NIB No.: MANIREDA/SPP/TO/2015/1 Date: To, The Director Manipur Renewable Energy Development Agency (MANIREDA) Science & Technology Complex, SAI Road, Takyelpat, Imphal-795001 Sub: Authority Letter for Signing Bid Document & Attending Bid Opening Meeting I hereby authorize (Name & Designation) to sign the Bid Document and attend the Bid Opening Meeting 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 ofis attested below. (Specimen Signature) (Signature of Authorized Signatory) Name • 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.
- 2. Authorization can be for more than one persons

9. Proforma – 3

Information about the Bidding Firm

NIB No.: MANIREDA/ SPP /TO/2015/1 Date :

SI.	Particular				
1.	Name of the Bidder				
2.	Address of Bidder with Telep	ohone, Fax, email			
3.	Address of the Registered Of	ffice			
4.	Address of the works				
5.	GPS Co-ordinate of Registere	ed Office			
6.	GPS Co-ordinate of Factory C	Campus			
7.	Name & Designation of Au for Correspondence	ithorized Signatory			
8.	Nature of Firm (Propried /Pvt. Ltd./Public Ltd. Co./Pub				
9.	Permanent Account Number	(PAN)			
10.	Firm's Registration Number				
11.	EPF Registration No. (if applicable)				
12.	Sales Tax/Value Added Tax Registration Number				
13.	Specify the Item Originally M	lanufactured			
14.	Year of Starting of Manufac of PV Component(s)	turing/ Assembling			
15.	Installed Capacity for Sola Components/Plant	r Products/			
16.	Total Production and Sale of PV Products	2012-13	Production	Sales	
	During the Last Three Years (in Rupees)	2013-14			
	rears (iii Rupees)	2014-15			
17.	Name of Material and Mode	l Type Offered			
18.	Name of Manufacturer of SPPs with Full Address				

	1.	SPV SPPs	
	2.	PV Module	
	3.	Control Electronics/Inverter/PCU	
	4.	Battery	
20.	Par	ticulars of Earnest Money	
21.	Qua	antity Quoted for Solar Powerplant	
22.		me of the Test Center where the testing of mponents SPP has been performed	
23.	Tes mei	t Report No. of components SPP ntioning date of test	
24.	Spe rep	cify MNRE specification as in the test ort	
25.	Plac	ce where Materials will be Manufactured	
26.		ce where Materials will be Available for pection	
27.	rega	ether the Bidder has submitted details with ard to supplies made to important anizations.	
28.		rails of any existing service network in nipur (Name & address of service centre)	
30.	Oth	er 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).

10. Proforma – 4

Details of Orders Received and Executed in Past Years

NIB No. : MANIREDA/ SPP /TO /2015 /1 Date :

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

SI. no.	Name of Agency/ Organization	Purchase Order No., Date & Ordered Qty.	Name of Model	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

11. Proforma – 5

No Deviation Certificate

NIB No. : MANIREDA/ SPP/TO/2015/1	Date :
To, The Director Manipur Renewable Energy Development Agency (MANIREDA) Science & Technology Complex, SAI Road, Takyelpat Imphal-795001	
Dear Sir,	
We understand that any deviation/exception in any reference number may result in rejection of our bid. exceptions/deviations anywhere in the bid and we agree may be rejected.	We, therefore, certify that we have not taken any
	Yours faithfully,
	(Signature of Authorized Signatory)
Name	:
Designation Company sea	: I :
Note: This "No Deviation Certificate" should be wring No. duly signed and stamped with date by attorney to bind the bidder.	tten on the letter head of the bidder indicating BID a person competent and having the power of

12	Proforma -	ĸ
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Format for Guarantee Card to be Supplied with Each SPP

NIB No: MANIREDA/SPP /TO/2015/1

Data														
177711		-		-	-	-	-	-		-	-	-	-	

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

Guarantee Card

1.	Name & Address of the Manufacturer/ Supplier of the System						
	Nar	ne & Address of the Purchasing Agency					
3.	Dat	e of Supply of the System					
4.	Det	ails of PV Module(s) Supplied in the System					
	(a)	Name of the Manufacturer					
	(b)	Make					
	(c)	Model					
	(d)	Serial No.					
	(e)	Wattage of the PV Module(s) under STC					
	(f)	Guarantee Valid Up To					
5.	Det	ails of Battery					
	(a)	Name of the Manufacturer					
	(b)	Make					
	(c)	Model					
	(d)	Batch/Serial No(s).					
	(e)	Month & Year of Manufacture					
		Rated V & AH Capacity at C/10					
	(f)	Rated at 27 ⁰ C					
	(g)	Guarantee Valid Up To					
6.	Det	ails of PCU/Inverter & Other BOS Items					
	(a)	Name of the Manufacturer					
	(b)	Make					
	(c)	Model					
	(d)	Serial No(s).					
	(e)						
	(f)	Guarantee Valid Up To					
7.		ignation & Address of the Person to be					
	Contacted for Claiming Guarantee Obligations						

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

13. Proforma – 7 Format for Certificate of Delivery of the Number of SPPs Received by the Consignee as Proof of Compliance by the Supplier

NIB No. : MANIREDA	/SPP/TO/2015/1		Da	nte :	
		CERTIFICATE			
Name of Department					
5kWp Solar Parray structuacid battery DCDB, cables supplied, ins (Treasury Off with funding	t nos.(in rower Plant(2 re,48nosx2V with rack,5K , Solar Still, Ex stalled and o ices) by M/s from Ministry	0 nos x 250W 300AH Tubul VA PCU/Inve haust Fan, Fir commissioned of New and	SPV Moar VRLA erter core extinged at december of the december	odule comp Type flood mplete wit uisher etc) esignated ble Energy,	lete with ded lead h ACDB, has been 13 sites
Manipur		terms	of		
Signature of Consign Name: Designation:					

14. Proforma – 8

Format for Location-wise Detail of the Module, Battery & Inverter etc Utilization Report of 5kWp Solar Power Plant (SPP) Installed Under Solar Photo Voltaic Program (SPV)

NIB No. : MANIREDA/ SPP/TO/2015/1	Date :
Name of Manufacturer/Supplier :	Name of Consigned
Address of Consignee :	

SI. No.	Name of Beneficiary with address of site	District			Battery			nverter/PC controller	U with Charge	Date of Installation	Name of the Court with address		
			Number	Make	Year of Manufacture	Number	Make	Year of Manufacture	Number	Make	Year of Manufacture		

15. Proforma - 9

Format for Submitting the PRICE SCHEDULE/FINANCIAL BID(To be uploaded ONLINE only) for Design, supply, installation & Commissioning with Five years of Maintenance Performance Warranty Contract of 5x13kWp SPV Power Plant in Manipur

Price Schodule	
Road, Takyelpat, Imphal-795001	
Manipur Renewable Energy Development Agency (MANIF	REDA) Science & Technology Complex, SAI
The Director	
To,	
BID No. : MANIREDA/ SPP/TO /2015/1	Date :

Price Schedule

SI.	Item	Total Bid	Price in Rupees			
		Quantity	Unit Price	Total Price		
1	2	3	4	5 = 3 x 4		
1.00	System cost on Supply of 5kWp Solar Plant(SPP)	13				
1.01	Add CST @5% on system cost					
1.02	Transit Insurance					
1.03	Transportation					
	Service Tax @3.09% on transportation					
2.00	Installation & Commissioning charge					
2.01	Labour Cess @1% on Installation					
2.02	Service Tax@14.5% on Installation					
2.03	VAT @ 6% on installation					
3.00	MPWC(Maintenance Performance Warranty Contract)					
3.01	Labour Cess @1% on MPWC					
3.02	Service Tax@14.5% on MPWC					
3.04						
	Total in figures					
	Total in words	Rupees only				

(DO NOT SUBMIT FINANCIAL BID IN PHYSICAL FORM, TO BE UPLOADED ONLINE ONLY)

Certified that rates quoted for SPPs are as per specifications, terms & conditions mentioned in the bid document.

Yours faithfully, (Signature of Authorized Signatory)

Name:

Designation : Company seal :

16. Check List & Format for Submission of Bid

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

	_	ition/documents are to be annexed and flagged by the bidders along with	1	To be de
SI.	Annexure and	Particulars	Yes/No,	To be done
No	Proforma No.	0.11.65	Flag No.	5 .1
1	Annexure-I	Details of Earnest Money(D.D from any nationalized bank and validity		Both
		for at least 3months from the last date of submission of bids		uploading &
				hard copy
2	Annexure-II	A copy of the document/certificate that the bidder is a manufacturing		Both
		company/Firm/corporation registered in India of SPV		uploading &
		Cells/Modules/battery/PV system electronics/inverter(conforming to		hard copy
		relevant National/International Standards)		
3	Annexure-III	A copy of the Certificate for solar module as per IEC Standards		Both
				uploading &
				hard copy
4	Annexure-IV	Test Certificate conforming to MNRE approved specifications of the		Both
		components of SPV Power Plant like Inverter/PCU,Battery,Module etc		uploading &
		from a MNRE authorised testing centres /NABL accredited(Test		hard copy
		Certificate should have been issued on or after April,2009)		
5	Annexure-V	A copy of valid CST/State VAT/TIN registration Certificate		Hard copy
6	Annexure-VI	A summarized sheet of cumulative experience of the bidder in PV		Statement
		systems/power plants whose work order should be in the name of the		for uploading
		bidder.		but details of
				work orders
				in hard copy
7	Annexure-VII	Overall Average Annual Turnover of the Company/Firm/Corporation		Both
		in the last two financial years(A summarized sheet of turnover of last		uploading &
		two Financial Years certified by registered CA)		hard copy
8	Annexure-VIII	MNRE accredited off-Grid Channel Partner/Programme Administrator		Both
		with Credit Rating(from MNRE Accredited Rating Agency)		uploading &
				hard copy
9	Annexure-IX	The bidder has ISO 9001 certification		Both
				uploading &
				hard copy
10	Annexure-X	The bidder has ISO 14001 certification		Both
10	/unickare /	The stade has 150 1 1001 certification		uploading &
				hard copy
11	Annexure-XI	Copy of MoU signed for Pre-bid tie-up		Hard copy
12	Annexure-XII	Demand Draft for cost of bid document/Photocopy of Demand Draft		Hard copy
13	Annexure-XIII	Letter of acceptance to furnish the information in Proforma – 7,		hard copy
13	Allilexule-XIII	Proforma – 8, Proforma – 9,		пага сору
14	Annexure-XIV	Photographs of MD or Two Directors (in case of Ltd. Company.)		Hard copy
15	Annexure-XV	Technical Particular data sheet of SPP of Bidder		Hard copy
16	Annexure-XVI	Copy of audited Balance Sheet and Profit & Loss Account for last 3		Hard copy
10	Autoria XVI	(three) years		пага сору
17	Annexure-	Photographs of Registered Office & Factory attested by Gazetted		Hard copy
17	XVII	Officer or Notary Public.		пата сору
18	Annexure-	A tentative overall supply schedule in the form of Bar Chart		Hard copy
10	XVIII	A tentative overall supply schedule in the form of bar chart		пата сору
19	Proforma – 1	Forwarding Letter		Both
				uploading &
				hard copy
20	Proforma – 2	Authority Letter for Signing Bid Document & Attending Bid Opening		Both
20	110101111a - 2	Meeting		uploading &
		iviceting		hard copy
<u> </u>	l	<u> </u>	1	паги сору

21	Proforma – 3	Information about the Bidding Firm	Both
			uploading &
			hard copy
22	Proforma – 4	Details of Orders Received and Executed in Past Years	Both
			uploading &
			hard copy
23	Proforma – 5	No Deviation Certificate	Hard copy
24	Proforma-10	Price Bid	Only
			Uploading

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.

17. Proforma-10

(On the Letter Head of the Firm)

PROFORMA OF APPLICATION FOR PAYMENT

Unit Reference:	Date:	
Name of Contractor:	Contract No.:	
Contract Name :		
Application Serial Number. :	Contact Value :	
То,		
The Director		
Manipur Renewable Energy Developme	ent Agency (MANIREDA)	
Imphal,Manipur		
Dear Sir,		
APPLIC	CATION FOR PAYMENT	
	the undersigned hereby applies for payment y amount and currency in which claim is made). ichever is applicable]	of the
Ocean freight & marine insuran Inland transportation Inland insurance Price adjustment Extra work not specified in Con (Ref. Contract Change order No Other (specify) Final payment	ceipt of equipment at site ection/installation & commissioning ice	
mentioned Contract.		

Authorised Signatory.

18.Proforma-11

MATERIALS INSPECTION CLEARANCE CERTIFICATE (MICC)

1. Nam	e of the Work:	Design, manufac				sioning c	of 13Nos. of	5kWp Solar
2 Nam	e of Worksite/Location	Power Plant inclu			pur.			
	e of the Firm/Contract	-						
	c Order No.:							
	nent No		dated					
•	shipped:							
	oed From <u></u>		mphal					
SL.	Item Description	Qty./ system	Invoice No.	Challan	Make	Unit	Amount	Remarks
No.			& date	No. &		price		
				date				
1	2	3	4	5	6	7	8	9
1.(a)	SPV Module							
(b)	Module/array Structure							
(c)	Junction Box							
2.(a)	PCU/Inverter							
(b)	Electronics							
3.(a)	Storage battery							
(b)	Battery rack							
4.(a)	Charge controlling unit							
(b)	ACDB,DCDB							
5.(a)	Cable & Wire							
	Earthning system,							
(b)	Lightning arrester							
	Exhaust Fan,							
(c)	Extinguishers, sand							
	Buckets							
6.(a)	Manual							
(b)	Others if any							
	osed documents: Pac	-				_		ay Bill etc. 10 .
	er's Use: Quantities sh	own in column 2 v				•		
Date re	ceived:		Signature of au	thorized MA	NIREDA repi	resentati	ve	
Name:	ation. Field Assistant -	- Ct Ai-tt						
_	ation: Field Assistant a		by MANUDEDA .	afficials and	**********	vo of N4/	'a	a+
_	pected on :an n of MANIREDA/ware		•		-			
12. Des	tination: Acceptance	of listed items has	been made by	me or under	my supervis	sion and	they conforn	n to contract,
except	as noted herein or on	supporting docum						
Date:			:	Signature of	authorized N	MANIRED	A representa	ative
Name:								
Designa	ation: Scheme Officer							

19. Proforma – 12

COMPLETION CERTIFICATE

3. Nam	e of Worksite/Location: e of the Firm/Contractor. : k Order No.:				
	of completion:				
SL. No.	Item Description	Qty.	Make	Product Serial No.	Remarks if any
1	2	3	4	5	9
1.(a)	SPV Module				
(b)	Module Mounting Structure				
(c)	RCC Array foundation				
(d)	Junction Box				
2.(a)	PCU/Inverter				
(b)	Electronics				
3.(a)	Storage battery				
(b)	Battery Bank & rack				
4.(a)	Charge Controlling Unit				
(b)	ACDB/DCDB				
5.(a)	Cable & wire				
(b)	Earthing,Lightning arrester				
(c)	Exhaust Fan, Fire				
(0)	Extinguishers, sand Buckets				
6.(a)	Manual				
(b)	Others if any				
9. Encl	osed documents: 3 copies of o	ompletion re	eports along w	vith photographs of the s	system installed are
hereby	submitted to MANIREDA, both	n in hard and	l soft copies w	herein details of equipm	ent given in format
above.					
_	nature of Beneficiary: Quanti	ties shown i	n column 2 v	vere received , installed	and tested at the
locatio	n intimated by us.				
Data of	Fracciused and installed.		Cianatur	a of Cohoma Officer NAAN	HDCD A
Name:	received and installed:		Signatur	e of Scheme Officer, MAN	IIKEDA
Designa	ation:				
Designi	ation.				
11. In:	spected on:and	iointly	by MANIRI	EDA officials and repre	esentative of M/s
		, ,			

20. LIST OF THE (THIRTEEN) Treasury Offices of Manipur

SI.	Districts	Beneficiary office with	Contact Person		
No.		address			
1.	Imphal West	Wangoi Treasury Office, Wangoi	Mr. Rattan, SDO/Office, Sub Treasy Officer Imphal West District Mobile - 9862096805		
2.	Imphal East	Porompat Trearury Office, Porompat	Mr. Rabban Shah/ATO, Mobile- 9436849755 Zosanglur Joute,/ TO Mobile-9612168243		
3.	Thoubal District.	Thoubal Treasury Office, Thoubal	Mr. Somorendro, TO/Tbl Mobile-8014345942		
4.	Kakching Sub- Division	Treasury Office Kakching Kakching	Mr. Gunindro, STO/Kak, Mobile – 9856385968		
5.	Bishnupur Diostrict.	Treasury Office, Bishnupur	Mr. Zior Rahaman,TO/Bpr Mobile – 9436206900		
6.	Senapati District.	Treasury Office, Senapati	Mr. Zoseph, TO/Spt Mobile – 9402881417		
7.	Chandel District.	Treasury Office, Chandel	Mr. Parithoihen, TO, 9402274759/8731090064		
8.	Churachandpur District	Treasury Office, Ccpur.	Rosiemlien, TO/Ccpur, Mobile – 9615085091		
9.	Ukhrul District.	Treasury Office, Ukhrul	Joyrita, TO/Ukl Mobile – 9612318327		
10.	Tamenglong District.	Treasury Office, Tamenglong	Hannah Kamei, TO Mobile – 9436857965		
11.	Jiribam	Treasury Office, Jiribam	Dwijendro, TO Mobile – 8974466908		
12.	Kangpokpi	Treasury Office, Kangpokpi	Mankholim, Staff Mobile – 9436271336		
13.	Moreh	Treasury Office, Moreh	Serto, STO 9402020087/8413953674		

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