

TENDER BIDDOCUMENT

e-TENDER for

- (i) Design & Supply of 100kWp SPV Power Plant,**
- (ii) Installation & Commissioning of 100kWp SPV Plant,**
- (iii) 5(five) years of Maintenance & Performance Warranty Contract(MPWC)**

at

**National Institute of Technology (NIT),
Langol, Imphal, Manipur**

NIB No. MANIREDA / SPP /NIT/2016/1

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

FortheYear2016-17

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

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

Cost of bid document: Rs 1,500/-

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1. Notice Inviting Bid

Manipur Renewable Energy Development Agency (MANIREDA)

2nd Floor, South Block, Secured Office Complex, AT Line, Near Imphal Hotel, Imphal-795001
Tele Fax:0385-2444027;e-mail:manireda99@yahoo.com;Website:www.manireda.com

NIB No. : MANIREDA/SPP/NIT/2016/1

Imphal, dated:11/02/2016

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

Item	Tender No.	Total Capacity	Cost of Tender Document	Earnest Money
(i) Design &Supply of 100 kWp SPV Plant, (ii) Installation & Commissioning of 100 kW SPV Power Plant. (iii) 5yrs Maintenance and Performance Warranty Contract (MPWC) at National Institute of Technology (NIT), Langol, Imphal, Manipur	MANIREDA/SPP/NIT/2016/1	100 kW	Rs 1500/-	Rs 4.00 lakhs

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 bid at <https://manipurtenders.gov.in>

A Pre-Bid Meeting of the Prospective Bidders will be held at 11.00 a.m. on 27/02/2016 at the office of Director, MANIREDA, 2nd Floor, South Block, Secured Office Complex, AT Line, Near Imphal Hotel, Imphal-795001, Manipur. **Bids of only those Bidders who attend the Pre-Bid Meeting will be accepted.**

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 05/03/2016. Hard copy of bid documents and Cost of Tender document and Earnest Money shall be submitted from 12.00 noon of 10/02/2016 to 12.00 noon of 05/03/2016. The Technical bid shall be opened at 12.00 noon sharp, on 07/03/2016. 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.....Dt.....

DD No..... Bank.....

Sl	Description	Details
1.	Notice Inviting Bid (NIB)No.	MANIREDA/SPP/NIT/2016/1
2.	Scope of work	(i)Design, Manufacturing, supply of 100 kWp SPV Plant, (ii)Installation & commissioning of 100 kWp SPV Plant, (iii)5(five) years Maintenance and Performance Warranty Contract (MPWC)of100 kW SPV Power Plant at National Institute of Technology (NIT), Langol, Imphal, Manipur. Estimated quantity to be installedis1 No. of 100 kW SPV Power plant. 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/ Pre-Bid Meeting	Manipur Renewable Energy Development Agency (MANIREDA), 2 nd Floor, South Block, Secured Office Complex, AT Line, Near Imphal Hotel, Imphal-795001. PhoneNo.0385-2444027; Fax No. :0385-2444027 Website:www.manireda.com,E-mail:manireda99@yahoo.com
4.	Date & time of Pre-Bid Meeting	Date :27th February, 2016. Time :at11.00A.M. Venue : Office of the Director, MANIREDA, 2 nd Floor, South Block, Secured Office Complex, AT Line, Near Imphal Hotel, Imphal-795001, Manipur.
5.	Last date of uploading of bid document in the e-tender	Date : Up to 12.00 noon of 5th March, 2016. e-tendering site :https://manipurtenders.gov.in
6.	Last date &time of submission of Hard copy of bids	Date :5th March, 2016 Time :Upto 12:00 noon,.(submission of documents after 12.00 noon will not be accepted at any circumstances).
7.	Date & time of opening of Technical Bid	Date :7th March,2016. Time :at 12.00 Noon sharp. Venue : Office of the Director, MANIREDA, 2 nd Floor, South Block, Secured Office Complex, AT Line, Imphal.
8.	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, 2 nd Floor, South Block, Secured Office Complex, AT Line,Imphal.
9.	Cost of bid document	Rs 1,500/- in the form of D.D. favouring Director MANIREDA payable at Imphal.
10.	Earnest Money (Refundable)	Rs. 4,00,000/-(Four lakhs only) in the form of D. D. favoring Director MANIREDA, payable at Imphal.
11.	Time of completion	Within five(5)months from the date of work order or date of release of mobilisation advance whichever is applicable..
12.	Validity of offer	The offer shall remain valid up to 365days from the due date of submission of offer.

13.	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 3 months.
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3. Detailed Notice Inviting Bid(DNIB)

Manipur Renewable Energy Development Agency (MANIREDA)

2nd Floor, South Block, Secured Office Complex, AT Line, Near Imphal Hotel, Imphal-795001

Ph.:0385-2444027,2058535,Fax:0385-2444027,e-mail:manireda99@yahoo.com

Website:www.manireda.com

NIB No. : MANIREDA/SPP/NIT/2016/1 Date:11/02/2016

- Sub: (i) Design, Manufacturing, supply of 100 kWp SPV Plant,
(ii) Installation & commissioning of 100 kWp SPV Plant
(iii) 5(five) years Maintenance and Performance Warranty Contract (MPWC) of 100 kW SPV Power Plant at National Institute of Technology (NIT), Langol, Imphal, 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 Manipur E-Tender website (www.manipur.tenders.gov.in) and MANIREDA website (www.manireda.com) 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 –
- Any bidder withdraws his bid or rescinds from his offer during the validity period.
 - The successful bidder fails to furnish his acceptance of the Order within twenty days of placement of Work Order by MANIREDA.
 - 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 Maintenance and Performance Warranty Contract (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 Warranty 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://manipurenders.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(Off Grid SPV Power Plants only)-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 Solar Inverter/PCU 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 of Off grid SPV Power plant with atleast a single 100 kWp capacity or more capacity whose work order issued in the name of the bidder to Govt. aided/Govt Deptt/Institutions.
 - (x) A summarized sheet of turnover for last 3yrs 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.
 - (xiv) Registration Certificate of Company/Firm.
- 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://manipur.tenders.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/NIT/2016/1(Technical Bid)",to the office MANIREDA, 2nd Floor, South Block, Secured Office Complex, AT Line, Near Imphal Hotel, Imphal-795001 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 website).
 - (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 any where, 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 upto 12.00 noon of 5th March, 2016 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 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.
- 7.3 The Bidder shall carefully check the specifications and shall satisfy himself regarding the technical requirement and completeness of the equipment/system.
- 7.4 Bidder should be capable and agree to install the 100 kW SPP at National Institute of Technology (NIT), Langol, Imphal. MANIREDA reserves the right to award work to any bidders at its discretion.
- 7.5 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.
- 7.6 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 Pre-Bid Meeting and Authority of Person Signing the Documents

10.1A Pre-Bid Meeting will be held at the Office of Director, MANIREDA, on the designated Date and Time mentioned in Bid Details on Page No.4 of this Bid Document. All the prospective Bidders are to attend this Pre-Bid Meeting without fail. The details of the Work will be discussed in this Pre-Bid Meeting including the visit to the Work site. **E-Tenders of the Bidders who do not attend this Pre-Bid Meeting will be out rightly rejected & Technical Bids submitted by them will not be opened during Technical Bid. Bidders are advised to quote their Price only after seeing the Work site.** The Bidders should furnish the Authorization letter as per Proforma-2 with the seal of the company for the person attending the Pre- Bid Meeting as well as Bid Opening meeting & signing the bid document.

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 too their 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 incident arising incurred by him through or in connection with his submission of bid, even though MANIREDA may decide to withdraw the notice inviting bids.

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 Solar Inverters/PCU (Conforming to relevant National/International Standards). Cumulative Experience of the Bidders should be of executing contracts of Off-Grid Solar Power Plants (installed & commissioned). **The Bidders should have designed, manufactured, supplied, installed & commissioned at least 1(one) 100 kWp Off-Grid Solar Power Plant in Govt aided/Govt Institution with Work Order awarded in Bidder's Name/Firm.** (Copies of work orders must be enclosed to support the cumulative experience). **Experience should be of Design, manufacture, supply, installation & commissioning Off-Grid Solar Power Plants only. Experience of On-Grid Solar Power Plants will not be counted.**

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 100 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 The Bidder should have valid CST /State VAT/TIN registration certificate. A copy of which should be enclosed.

12.5 Overall Average Annual Turnover of the Company/Firm/Corporation in the last three financial years (2012-13, 2013-14 & 2014-15) should be at least 2.00 crore. 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)

12.6 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.

12.7 The bidder should have ISO 9001 certification

12.8 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 In complete 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 there of 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 100 kW SPV Power Plant includes (i) Design, manufacturing, shop testing, packing & forwarding, transportation, transit insurance, supply of 100 kWp SPV Power Plant at identified sites via transit godown of MANIREDA for checking/store entry, (ii) installation, testing & commissioning of 100kWp SPV Plant at National Institute of Technology (NIT), Langol, Imphal, Manipur. & (iii) 5years Maintenance & Performance Warranty Contract(MPWC)of SPP complete in all respects along with one set of operational instruction cum maintenance manual (in English) as per the direction of MANIREDA.

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, 2nd Floor, South Block, Secured Office Complex, AT Line, 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 bids 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 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.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 NIT, Imphal (b). Installation & Commissioning including VAT, Labour Cess, Service Tax etc and (c). MPWC for 5 years period including Service Tax).
- 2.6 The bidders shall be ranked L1, L2, L3.... as per the Total Price(P). 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 and on approval of the Chairman, MANIREDA.

4.0 Capacity Required

- 4.1 The capacity 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 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/capacities 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

- (a) 20% of the total work order value(excluding installation, commissioning and MPWC cost) shall be released as mobilisation advance against the submission of Bank Guarantee of equivalent amount from a Nationalised Bank valid at least for a period of 6 months after verification subject to availability of fund from MNRE, GoI or other sources. The mobilisation advance so paid shall be interest bearing @ 12% per annum effective from the day on which advance payment is made.
- (b) 50% of the total work order value (excluding installation, commissioning and MPWC charges) or 70% if the mobilisation advance is not taken for each bill shall be released against delivery of goods in full and in good condition(materials for 50KW each) subject to availability of fund from MNRE,GOI or other sources:-
1. Certificate of Supply of SPP received by the consignee as specified.
 2. Commercial invoice of the supply made in triplicate.
 3. Copy of delivery challan/transportation challan/lorry receipt
 4. Material Inspection Certificate.
- (c) Remaining 30% 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 of the systems after submission of the following documents:
1. Certificate of installation & commissioning of SPP received by the consignee as specified in Proforma-7.
 2. Details of the module, battery & PCU/Inverter utilization report of SPP installed under the SPV Program as specified in Proforma-9
 3. Commercial invoice of the supply made in triplicate.

4. Copy of delivery challan/transportation challan/lorry receipt.
5. Verification of Certificate of Commissioning from the beneficiary countersigned by officer concerned.
6. Photographs along with details of module, battery, inverter/PCU etc. installed in soft copy (CD/DVD).
7. 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;

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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- d) The contractor has to deposit @5% of the project cost (excluding MPWC) as Performance Guarantee in terms of irrevocable Bank Guarantee for the tenure of the contract including MPWC. In case, the Contractor opted for withholding 5% payment in lieu of depositing 5%, then 5% of system cost plus installation charges would be withheld for the Performance Guarantee period of 5year. If the Solar system fails to confirm 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.
- e) MPWC charges shall be released on 5 equal yearly installments on satisfactory performance. The record of performance sheet duly attested by the authority of Beneficiary Organisation/National Institute of Technology, Langol, Imphal, Manipur shall be submitted to MANIREDA on quarterly basis, by 15th of the next month.

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 be payabilities 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 in to 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 maybe 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 get 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/ MPWCperiod 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/SubLetting/Pre Bidding Tie Up:

- 17.1 The Supplier/contractor shall not assign or sublet, 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 MPWCis 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.

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 5years 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 contractor breach there of 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. (here in after 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.

TECHNICAL SPECIFICATIONS FOR 100kWp SPV POWER PLANT

TITLE: (i) Design, manufacturing, supply of 100kWp Off Grid Solar PV Power Plant
(ii) Installation & Commissioning of 100kWp SPV Power Plant
(iii) 5(five) years of Maintenance & Performance Warranty Contract (MPWC)

Sl. No.	Item description	Firm to specify details in this column
1.	SCOPE OF WORK	
1.1	Site survey and Layout Planning, Design, development and supply of all components of the SPV power Plant and erection of the PV system including the transportation	
1.2	Detailed planning of smooth execution of the project	
1.3	Testing, Installation & commissioning of the complete system up to AC Distribution Board	
1.4	Training of the staff deputed by NIT, Manipur as well as Local Operator of the Firm	
1.5	Providing a comprehensive Maintenance & Performance Warranty Contract for 5years including break down maintenance.	

	SPECIFICATIONS OF MAJOR COMPONENTS OF THE SYSTEM	The manufacturer/supplier should specify details of their product ,name of make etc in this column
1	SPV ARRAY: The Solar PV Modules shall be made of Multi Crystalline Silicon Solar Cells. Solar cells of 60/72 nos. are connected in series to give required 250 Wp. Solar Module . For 100 KWp Solar PV Power plant is made-up of 400 nos. of 24 V, 250 Wp SPV Modules as per IEC standard. Each array has 16 nos. modules of 24 V, 250 Wp capacity in series. Array source circuit i.e. series stringing of 16 modules, (+) and (-) parallel connections are brought to the SUB JB where output are parallel and connected to 2 nos. MAIN JB. The blocking diodes prevent discharge of the Battery Bank at night through the source circuit. TECHNICAL SPECIFICATION OF SPV MODULE: Model No. : SP0250 Type : Multi-Crystalline Silicon Solar Module Cell size : +/-156mm x 156mm Cell Qty. : 60/72 pcs. Module size : +/- 1939mm x 982mm x 42 mm Junction Box :Four Terminals with IP65 Protection Diode : 15A15 bypass Nominal Rating : 24 V, 250W under STC Vmax : > 31.0V Imax : > 8.0A Voc : > 36.00V Isc : > 8.5A FF : > 70.00%	

	Efficiency (Module) : > 14.00% Power Tolerance : $\pm 3\%$ RFID Tag : Inside the lamination PV Module standard : IEC 61215 and IEC 61730-1 & IEC 61730-2 Weight : 22.0 kg. (approximate) RFID Tag : The PV module will have a RF Identification tag (RFID), which will contain the following information. The RFID will be inside the module laminate to withstand harsh environmental condition: - Name of the manufacturer of PV Module - Name of the manufacturer of Solar Cells - Month and year of the manufacture (Solar Cell & Module) - Country of Origin (Solar Cell & Module) - I-V curve for the module - Peak Wattage, I_m, V_m and FF for the module - Unique Serial No. & Module No. of the Module - Model or Type Number - Date & year of obtaining IEC PV Module Qualification Certificate - Name of the Test Lab issuing IEC Certificate - Other relevant information on traceability of the Solar Cell & Modules as per ISO. 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 2016-17 (100 kWp 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.	
2	MODULE MOUNTING STRUCTURE: All the Bidders who attend the Pre-Bid Meeting will be taken to the Worksite. The mounting structure shall have to be designed by the Contractor after spot verification. The module mounting structure is made of hot dip galvanized MS angles of size 50 mm X 50 mm X 6 mm. The thickness of galvanization is 80 micron. All the nuts, bolts are made of good quality MS or SS. Modules shall be mounted on the tin/Diana rooftop of three adjacent buildings. The height of the buildings are above 35feet having steel structure. Facilities must be provided for cleaning of modules by providing water pipes and tap for every row or column and stair (MS) must be provided to reach each rooftop. Space must be provided in between rows for proper maintenance and cleaning. Mounting Structure must be designed to withstand all weights of modules and cleaner and to withstand wind speed of 200km/hr. Tilt angle of modules south facing should be 22 degree and therefore array should be designed to have uniform tilt from top to bottom row and if necessary additional structure be provided . Aluminium /MS clamps, bracket, L foot hook or any other items required must be of good quality. Anti-theft Nut & Bolts must be used for modules.	

	TECHNICAL SPECIFICATION OF MODULE MOUNTING STRUCTURE Type : Hot deep galvanized minimum 70 microns Material : MS Angle / Channel Angle Size : 45mm. X 45 mm. X 6 mm. Tilt angle : 22 deg Nut & Bolt : All stainless steel Nut, bolt(Anti-theft)& washer of good quality MS or SS. Specification : As per IS Mounted frame parallel to sloped roof surface : Structure to be capable of withstanding a wind load of 200 km / hr.	
3	ARRAY SUB JUNCTION BOX & MAIN JUNCTION BOX The Array Junction boxes shall be dust, vermin and water proof and made of FRP / powder coated Aluminium with full dust / ABS / Thermo Plastic. The Junction Boxes confirms to IP 65 standard and IEC 62208. J.Bs have hinged door with EPDM rubber gasket to prevent water entry. The terminals shall be connected to Copper bus bar arrangement of proper size. The junction boxes shall have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables. All the wire/cables must be terminated through cable lugs. The J.Bs shall be such that input & output termination can be made through suitable cable gland. Suitable marking shall be provided on the bus bar for easy identification and cable ferrules shall be fitted at the cable termination points for identification. Each J.Bs have suitable earthing provision. It will be placed at 5 feet height or above as per site requirement for easy accessibility. Each Junction Box shall have suitable arrangement monitoring and disconnection for each of the groups.	
4	DC DISTRIBUTION BOARD : The DCDB shall be provided in between Solar Array and Power Conditioning Unit. It consists of MCCB of suitable ratings for connection and disconnection of array input and also Volt meters, Ammeters & Charging Discharging Amp Hour Meters. It has LED indication for ON and OFF status as per requirement.. TECHNICAL SPECIFICATION OF DCDB Enclosure material : Sheet Steel Epoxy Powder coated Mounted type : Wall mounting type Cable entry : Bottom No. of glands with cable size : 6 nos. for 95 sq. mm / 70 sq. mm. cable size MCB : 2 nos., 400 A DC Am-meter : 1 nos. (0 to 150 A) for measuring Solar display DC Am-meter : 1 no. (-150 to 0 & 0 to +150 A) for measuring Battery Charge &	

	discharge display DC Volt Meter : 2 no. (0 to 400 V DC) for SPV & Battery DC Ampere Hour Meter : 1 no. Earthing terminal size : M75 Accessories : as per requirement TECHNICAL SPECIFICATION OF BATTERY ISOLATION DEVICE Fuse : 1 no. , 400 A 600 V DC HRC Fuse with DC insulator Fuse Holder : 1 no., 400 A 600 V DC Link Cupper rating : 400 A (-) No of incoming glands with cable size : 02 nos. for 95 sq. mm / 70 sq. mm. cable size	
5	POWER CONDITIONING UNIT (PCU): As SPV array produces direct current (DC), it is necessary to convert this to alternating current (AC) and adjust the voltage levels before powering equipment designed for nominal mains AC supply. 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. Maximum Power Point Tracker (MPPT) : Maximum Power Point Tracker (MPPT) shall be integrated into the PCU to maximize energy drawn from the SPV array. The MPPT should be Microprocessor / Microcontroller based to minimize power losses. CHARGE CONTROLLER (MPPT /PWM): DC electricity from the array is used to feed inverter as well as charge the battery bank for night time use. The total energy received from the array being dependent upon the availability of sunshine during the day which in turn varies from season to season; there may be occasions when the Power Plant generate surplus energy. Similarly in monsoon season, prolonged overcast sky could cause Battery Bank getting drained beyond the maximum allowed depth of discharge (DOD). To guard against battery overcharge or deep discharge, the charge controller is incorporated. INVERTER: It is a hybrid inverter based on PWM technology. The DSP controller is used for controlling the whole unit in quick time. Input voltage range being 300-700V DC it is ideally suitable for 240 V 3000 AH battery operation. Rating of the inverter one is 125.0 KVA, 240 V DC / 415 (±3%) V AC, 3 phase, 50 (±5%) Hz, sine wave inverter with inbuilt	

PWM / MPPT Charge controller of rated 300-700 V DC, 125 KW. The output voltage wave is good quality sine wave. External battery charging facility through AC is also be provided.

TECHNICAL SPECIFICATION OF THE INVERTER:

125 KVA INVERTER :

1.	Rating of the PCU	125 KVA 440 V AC 4 W sine wave with inbuilt MPPT Charge & 400 AH Battery Bank
2.	Nominal DC Input Voltage (SPV Array)	300 V -700V DC
3.	Low Voltage cut off (SPV Array)	300 V
4.	High Voltage cut off (SPV Array)	700 V
5.	Nominal DC Input Voltage (Battery)	240V
6.	Low Voltage cut off (Battery)	216 V
7.	High Voltage cut off (Battery)	300 V
8.	Type of Controller	MPPT PWM based
9.	Switching device	IGBT Based
10.	Continuous Rating	125 KVA
11.	Over Load Capacity	150% for 30 sec.
12.	Output wave form	Pure sine wave output.
13.	Total harmonic Distortion	<3% with resistive load.
14.	Output Voltage	440 + 5% V AC (3P)
15.	Output Frequency	50Hz + 0.05%
16.	Efficiency	>90% at full load with Transformers topology for higher efficiency.
17.	Cooling	Forced air cooling with temperature controlled cooling fan
18.	Ambient temperature	0-55°C
19.	Humidity range	0-95%
20.	LED/LCD Display	Display will indicate system major functional parameter like- Main status, Solar status, Charging status, Battery status. Etc
21.	Protection	Battery over/ under voltage, Output short circuit, Over load, Phase reversal, Mains high/ low, Voltage cut off, high

			temperature, Battery wire removal, Reverse flow of current, under frequency	Input surge voltage, surge current, ov	
	22	Enclosure	Rust & moisture resistance sheet metal with powder coating Painting.		
	23	Standard	IEC 61683, IEC 60068 2 (1, 2, 14, 30)		
6	DATA LOGGER/MONITORING SYSTEM				
	Data logging system may be an integrated part of the inverter or a separate unit. All the relevant information will be stored in a data logger. The inverter will be equipped with an RS485/ RS232 and Ethernet slandered interface. PC based monitoring and data logging system (with software capable of generating various required data).				
7	BATTERY BANK: 240V Flooded Tubular Type Lead Acid Battery Bank having a storage capacity of 3000AH. The Battery Bank should be comprised of 360 nos. of 2V 1000Ah each (under Standard Test Condition), Flooded Tubular Type Lead Acid 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 Storage Batteries/Battery Bank must conform to the latest edition of IEC/ equivalent BIS Standards as specified below: General Requirements & Methods of Test - IEC 61427. Tubular Lead Acid - IS 1651/IS 13369. TECHNICAL SPECIFICATION OF BATTERY Manufacturer : Exide Industries Ltd./HBL Power Systems/Southern Batteries/Accumulator Manufacturing Company(Others not allowed) Battery Type : Low Maintenance tubular plate lead acid battery, solar grade. Storage Capacity : 240 V 3000 AH (@C/10) Cell Voltage (cell) : 2 Volt Container : Polypropylene with carrying handle. Cover : Protective cover of Polypropylene Efficiency : Amp hour ≥90% and Watt hour ≥75% Max Depth of Discharge : 80% Cell cut off voltage : 1.85 V / cell. Electrolyte : Battery Grade Sulphuric acid Standard : IS 1651. Accessories : Each Battery Bank will contain suitable wooden rack, hydrometer, thermometer, cell connector and connecting leads etc. Design Cycle : 1500 cycle at 80 % DOD 4000 cycle at 40 % DOD 7500cycle at 20 % DOD Charge Efficiency : Shall be more than 90% up to 70% state of charge.				

	Rack : Suitable size and adequately strong Battery Rack should be supplied with each Battery Bank	
8	AC DISTRIBUTION BOARD : Sheet metal Enclosure with powder coating painting having AC MCB / MCCB. ACDB also have LED Indicator. TECHNICAL SPECIFICATION OF ACDB Enclosure material : Sheet Steel Epoxy Powder coated Mounted type : Wall mounting type Earthing terminal size : M20 Cable entry : Bottom No. of glands with cable size : 6 nos. for 70/95 sq. mm. Accessories : per requirement MCB/ MCCB : MCB/ MCCB for connection & disconnection of PCU from load MCB : MCB for power supply to control room & Battery room loads Feeder MCB : Output to control panel through	
9	CABLES : All the cables are Type : PVC insulated and sheathed Materials : All DC Cables are Copper & AC Cables are Aluminium Working voltage : Up to 1100 V State voltage : 650 V/1.1 KV Color : To suit Red, Black, Blue Temperature : -15 deg. C to + 70 deg. C Standard : IS 1554 part -1/ 694-1990 Cable Size & Schedule : as per attached sheet	
10	LIGHTNING AND OVER VOLTAGE PROTECTION SYSTEM: The SPV Power Plant is provided with lightning and over voltage protection connected with proper earth pits. The lightning conductor is made of 20-25 mm diameter, 3000-3500 mm. long GI spike as per provisions of IS. The lightning conductor is grounded through 25 mm. X 5 mm. thick GI strip with earth pit. Their shall be required no of suitable lightning arrestors installed in array field.	
11	EARTHING SYSTEM: Each array structure of the PV yard should be grounded properly . In addition the lightning arrestor should also be provided inside the array field. Provision should be kept be provided inside the array field. Provision should be kept for shorting and grounding of the PV array at time of maintenance work. All metal casing/ shielding of the plant should be thoroughly grounded in accordance with IEC acts/ IE Rules. PCU ACDB & DCDB will be earthed properly. Earthing for array and distribution systems and power plant equipments are made with GI pipe 2000-3000 mm. long 25-30 mm. diameter including accessories and using charcoal and salt as per IS 3043. The array structure is grounded to earth pit through 25 mm X 5	

	mm. GI strip.	
12	<u>FIRE EXTINGUISHER:</u> BIS standard Portable fire extinguisher with sand bucket will be provided in the control room & battery room for fire caused by electrical short circuits.	
13	<u>SPECIFICATION CHANGE OVER SWITCH</u> A separate change over switch of 3Ø, 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.	
14	<u>SOLAR WATER DISTILLATION PLANTS/SOLAR STILLs</u> 4(Four) Numbers of BIS approved quality Solar Distillation Plants of 1000 mm x 1000 mm shall be installed on suitable GI structure shall be installed. At least two numbers of plastic pots and one funnels are to be supplied along with each Solar Water Distillation Plants/Solar Stills.	
15	<u>SPECIFICATION OF SAND BUCKETS</u> The sand bucket to be wall mounted made from at least 24 SWG sheet with bracket fixing on wall conforming IS 2546.	
16	<u>SPECIFICATION OF SIGN BOARD</u> A SIGN BOARD in the following manner described below shall be installed in the work site. 100 kWp Solar Photovoltaic Power Plant at National Institute of Technology (NIT), Langol, Imphal, Manipur. Capacity: 100 kWp Commissioned on: Funded by: (i)Ministry of New and Renewable Energy (MNRE), Govt. of India under Jawaharlal Nehru National Solar Mission (JNNSM). (ii) NIT, Manipur, Implemented by: Manipur Renewable Energy Development Agency (MANIREDA), 2nd Floor, South Block, Secured Office Complex, AT Line,Imphal-795001, Manipur. Installed by:	
17	<u>SPECIFICATION OF DANGER PLATES</u> 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	
18	<u>SPECIFICATION OF EXHAUST FAN</u> 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. <u>SPECIFICATION OF WIRING MATERIALS</u> Control room wiring to be done by casing capping type 2C x 2.5 Sq. mm PVC insulated 1.1 KV grade Cu wire.	
19	Documentation 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.FIVEYEARS MAINTENANCE & PERFORMANCE WARRANTY CONTRACT (MPWC)

1.0 The Maintenance and Performance Warranty Contract (MPWC)

- 1.1 After the works are awarded to the successful Bidder/Bidders, he/they 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 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.

- 1.2 The Contractor should keep a person permanently (present round the clock) for day today operation, troubleshooting, maintenance etc. at the worksite during the MPWC period of 5 years.
- 1.3 The Contractor should also train a person preferably staff of the National Institute of Technology, Langol, Imphal, Manipur for day today operation, troubleshooting, maintenance etc. in order to facilitate easy operation & maintenance after MPWC period.
- 1.4 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 Contractor. The Contractor shall furnish a Performance Report duly attested by the authority of Beneficiary Organisation /**National Institute of Technology, Langol, Imphal, Manipur** 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 break down 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.
 2. 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 downtime 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/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 periodSeparate report shall be submitted for each type of systems manufacture wise incase 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.
- 1.4 The date of MPWC maintenance period shall begin on the date of actual commissioning of the SPV systems.
- 1.5 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 Organisation/National Institute of Technology, Langol, Imphal, Manipur.
- 3.6 Bidder shall furnish details of infrastructure that are presently available for establishing of Service Centers.

1. Proforma – 1

Forwarding Letter

NIB No.: MANIREDA/SPP/NIT/2016/1

To,

The Director

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

Sub: Offer in Response to Notice Inviting Bid No. MANIREDA/SPP/NIT/2016/1 for (i) Design, Manufacturing, Supply of 100 kWp Solar Power Plant (ii) Installation, Testing & Commissioning Including (iii) 5 Years Maintenance& Performance Warranty Contract (MPWC) of 100 kWp Solar Power Plant at NIT, Manipur 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 & condition so the Bid Documents on a ward of work.
7. Our offer shall remain valid for placement of purchase orders upto 365 days from the due date of submission of offer.

8. If at anytime, 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 Attending Pre-Bid Meeting, Bid Opening Meeting & Signing Bid Document

NIB No.: MANIREDA/SPP/NIT/2016/1

Date:.....

To,

The Director

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

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

I hereby authorize..... (Name & Designation) to attend the **Pre-Bid Meeting /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 :

Designation :

(Signature of Authorized Signatory)

Name :

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 or different persons for Pre-Bid Meeting and Bid Opening Meeting.

9. Proforma – 3

Information about the Bidding Firm

NIB No.: MANIREDA/SPP/NIT/2016/1

Date:.....

Sl.	Particular			
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./PublicLtd.Co./PublicSector)			
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 Manufactured			
14.	Year of Starting of Manufacturing / Assembling of PV Component(s)			
15.	Installed Capacity for Solar Products/ Components/Plant			
16.	Total Production and Sale of PV Products During the Last Three Years(in Rupees)	2012-13	Production	Sales
		2013-14		
		2014-15		
17.	Name of Material and Model Type Offered			

18.	Name of Manufacturer of SPPs with Full Address	
1.	SPVSPPs	
2.	PV Module	
3.	Control Electronics/Inverter/PCU	
4.	Battery	
20.	Particulars of Earnest Money	
21.	Quantity Quoted for Solar Power plant	
22.	Name of the Test Center where the testing of Components SPP has been performed	
23.	Test Report No. of components SPP mentioning date of test	
24.	Specify MNRE specification as in the test report	
25.	Place where Materials will be Manufactured	
26.	Place where Materials will be Available for Inspection	
27.	Whether the Bidder has submitted details with regard to supplies made to important organizations.	
28.	Details of any existing service network in Manipur (Name & address of service centre)	
30.	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 incase separate sheet is submitted).

10.Proforma – 4

Details of Orders Received and Executed in Past Years

NIB No.: MANIREDA/SPP/NIT/2016/1

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.	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/NIT/2016/1

Date:.....

To,

The Director

Manipur Renewable Energy Development Agency(MANIREDA),
2nd Floor, South Block, Secured Office Complex, AT Line, Near Imphal Hotel,
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 :

Company 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.

12.Proforma – 6

Format for Guarantee Card to be Supplied with Solar Power Plant

NIB No.: MANIREDA/SPP/NIT/2016/1

Date:.....

(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	
2.	Name & Address of the Purchasing Agency	
3.	Date of Supply of the System	
4.	Details 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.	Details 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°C	
	(g) Guarantee Valid Up To	
6.	Details of PCU/Inverter & Other BOS Items	
	(a) Name of the Manufacturer	
	(b) Make	
	(c) Model	
	(d) Serial No(s).	
	(e) Month & Year of Manufacture	
	(f) Guarantee Valid Up To	
7.	Designation & 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 Supply, installation & commissioning of Solar Power Plant
Received by the Consignee as Proof of Compliance by the Supplier**

NIB No.: MANIREDA/SPP/NIT/2016/1

Date:.....

CERTIFICATE

Consignee.....

Name of Department.....

Address.....

Certified that a 100kWp Solar Power Plant(400 Nos. x 250W SPV Module complete with array structure, 360 Nos. x2V 1000AH Tubular Type Flooded Lead Acid Battery with Racks, 125 kVA PCU/Inverter complete with ACDB, DCDB, cables, Solar Stills, Exhaust Fan, Fire extinguisher etc) has been supplied, installed and commissioned at National Institute of Technology (NIT), Langol, Imphal, Manipur by M/s..... with funding from Ministry of New and Renewable Energy, Govt. of India, Government of Manipur and National Institute of Technology (NIT), Langol, Imphal, Manipur in the state of Manipur as per terms of Work Order No.....dtd.....

Signature of Consignee.....

Name:.....

Designation:.....

Seal.....

14. Proforma – 8

Format for Details of the Module, Battery & Inverter etc Utilization Report of 100 kWp Solar Power Plant (SPP) Installed Under Solar Photo Voltaic (SPV) Program

NIB No.: MANIREDA/SPP/NIT/2016/1

Date:.....

Name of Manufacturer/Supplier:.....

Name of Consignee

Address of Consignee:.....

(A) Solar Power Plant.

Sl. No.	Name of Beneficiary with address of site	District	Module			Battery			Inverter/PCU with Charge controller			Date of Installation
			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 (MPWC) of 100 kWp SPV Power Plant at National Institute of Technology (NIT), Langol, Imphal, Manipur.

NIB No.: MANIREDA/SPP/NIT/2016/1

Date:.....

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

Price Schedule

Sl.	Item	Total Bid Quantity	Price in Rupees	
			Unit Price	Total Price
1	2	3	4	5=3x4
1.00	System Cost on Supply of 100 kWp Solar Plant(SPP)			
1.01	SPV Modules (100 kWp)	1		
1.02	Module Mounting Structures (100 kWp)	1		
1.03	PCU/Inverter (125 kVA)	1		
1.04	Battery Bank (360 Nos. of 2V 1000 AH batteries)	1		
1.05	Balance of Systems (BOS)	1		
	System Cost	1		
2.00	Add CST @5% on System Cost	1		
3.00	Transit Insurance	1		
4.00	Transportation	1		
4.01	Service Tax @3.09% on Transportation	1		
5.00	Installation & Commissioning charge	1		
5.01	Labour Cess @1% on Installation	1		
5.02	Service Tax@14.5% on Installation	1		
5.03	VAT @ 6% on installation	1		
6.00	MPWC (Maintenance & Performance Warranty	1		
6.01	Labour Cess @1% on MPWC	1		
6.02	Service Tax@14.5% on MPWC	1		
7.00	Total (A)			
7.01	Add 3% Contingency on Total (A) above			
8.00	Total (B)(7.00+7.01)			
8.01	Add Agency Charges @ 11.75% of Total(B)			
9.00	Grand Total (C) (8.00+8.01)			
	Total in words	Rupees only		

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

Certified that rates quoted for SPP 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

Sl. No	Annexure and Proforma No.	Particulars	Yes/No, Flag No.	To be done
1	Annexure-I	Details of Earnest Money(D.D from any nationalized bank and validity for at least 3months from the last date of submission of bids		Both uploading & hard copy
2	Annexure-II	A copy of the document/certificate that the bidder is Company/Firm/ Corporation registered in India, manufacturing SPV Cells/Modules/ PCU/inverter(conforming to relevant National/International Standards)		Both uploading & hard copy
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 components of SPV Power Plant like Inverter/PCU, Battery, Module etc from a MNRE authorised testing centres/NABL accredited(Test Certificate should have been issued on or after April,2009)		Both uploading & hard copy
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 of Design, manufacture, supply, I&C of off-grid solar power plants including I&C of a single 100 kWp SPV Power Plant whose work order should be in the name of the bidder.		Statement for uploading but details of work orders in hard copy
7	Annexure-VII	Overall Average Annual Turnover of the Company/Firm/Corporation in the last 3 financial years(A summarized sheet of turnover of last 3 Financial Years certified by registered CA)		Both uploading & hard copy
8	Annexure-VIII	MNRE accredited off-Grid Channel Partner/Programme Administrator with Credit Rating(from MNRE Accredited Rating Agency)		Both 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 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/Photo copy of Demand Draft		Hard copy
13	Annexure-XIII	Letter of acceptance to furnish the information in Proforma-7, Proforma-8, Proforma-9,		hard copy

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 (three) years		Hard copy
17	Annexure-XVII	Photographs of Registered Office & Factory attested by Gazetted Officer or Notary Public.		Hard copy
18	Annexure-XVIII	Atentative overall supply schedule in the form of Bar Chart		Hard copy
19	Proforma- 1	Forwarding Letter		Both uploading & hard copy
20	Proforma- 2	Authority Letter for Attending Pre-Bid Meeting, Bid Opening Meeting and Signing Bid Document.		Both uploading & hard copy
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 checklist 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 there in.

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 :

To,

The Director

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

Dear Sir,

APPLICATION FOR PAYMENT

Pursuant to the above referred Contract datedthe undersigned hereby applies for payment of the sum of(Specify amount and currency in which claim is made).

2. The above amount is on account of : [TICK whichever is applicable]

Initial advance

Interim Payment as advance

Progressive payment against dispatch of equipment

Progressive payment against receipt of equipment at site

Progressive payment against Erection/installation & commissioning

Ocean freight & marine insurance

Inland transportation

Inland insurance

Price adjustment

Extra work not specified in Contract

(Ref. Contract Change order No.....)

Other (specify)

Final payment

As detailed in the attached Schedule (S) which form an integral part of this application.

3.The payment claimed is as per item(s) No.(s)of the payment schedule annexed to the above – mentioned Contract.

4.The application consists of this page, a summary of claim statement and the following signed schedule

i).....

ii).....

iii).....

The following documents are also enclosed

a).....

b).....

c).....

Signature of Contractor/
Authorised Signatory.

18. Proforma-11

MATERIALS INSPECTION CLEARANCE CERTIFICATE (MICC)

- 1.Name of the Work: Design, manufacture, supply, installation and commissioning of 100 kWp Solar Power Plant including 5 years MPWC at NIT, Manipur.
- 2.Name of Worksite/Location: National Institute of Technology, Langol, Imphal, Manipur.
- 3.Name of the Firm/Contractor: :
- 4.Work Order No.: dated
- 5.Shipment No.....
- 6.Date shipped:.....,
7. Shipped From 8. Shipped To Imphal

SL. No.	Item Description	Qty./ system	Invoice No. & date	Challan No. & date	Make	Unit price	Amount	Remarks
1	2	3	4	5	6	7	8	9
1.(a)	SPV Module							
(b)	Module/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							
(b)	Earthing system, Lightning arrester							
(c)	Exhaust Fan, Fire Extinguishers, Sand Buckets, Solar Still, Sign Board.							
6.(a)	Manual							
(b)	Others if any							

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

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

Date received:

Signature of authorized MANIREDA representative

Name:

Designation: Field Assistant as Store Assistant

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

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

Date:

Signature of authorized MANIREDA representative

Name:

Designation: Scheme Officer

19. Proforma – 12

COMPLETION CERTIFICATE

1. Name of the Work: Design, manufacture, supply, installation and commissioning of 100 kWp Solar Power Plant including 5 years MPWC at National Institute of Technology (NIT), Langol, Imphal, Manipur.

2. Name of Worksite/Location: National Institute of Technology (NIT), Langol, Imphal, Manipur.

3. Name of the Firm/Contractor. :

4. Work Order No.: dated

5. Date of Completion of Installation:.....

6. Date of Commissioning of the Solar Power Plant:.....

SL. No.	Item Description	Qty.	Make	Product Serial No.	Remarks if any
1	2	3	4	5	9
1.(a)	SPV Modules				
(b)	Module Mounting Structures				
(c)	Junction Box				
2.(a)	PCU/Inverter (125 kVA)				
(b)	Electronics				
3.(a)	Storage Batteries(2V 1000 AH)				
(b)	Battery Bank Rack				
4.(a)	Charge Controlling Unit				
(b)	ACDB/DCDB				
5.(a)	Cable& wire				
(b)	Earthing, Lightning arrester				
(c)	Exhaust Fan, Fire Extinguishers, Sand Buckets, Solar Still, Sign Board.				
6.(a)	Manual				
(b)	Others if any				

9.Enclosed documents:3 copies of Completion Reports along with photographs of the system installed are hereby submitted to MANIREDA, both in hard and soft copies wherein details of equipment given in format above.

10. Signature of Beneficiary: Quantities shown in column 2 were received, installed and tested at the location intimated by us.

Date of received and installed:

Signature of Scheme Officer, MANIREDA

Name:

Designation:

11. Inspected on:and jointly by MANIREDA officials and representative of M/sat the site and found okay.

12.For Contractor Use only: Endorsed and certified the above report on behalf of M/s.....
..... End of the Bid Document