

# **TENDER BID DOCUMENT**

**e-TENDER For**

- (i) Design & Supply of 2 nos. of 5kWp  
SPV Power Plant,**  
**(ii) Installation & Commissioning of  
2x5kWp SPV Plant**  
**(iii) 5(five) years of Maintenance &  
Performance Warrantee Contract (MPWC)  
at  
2 Subordinate Courts in Manipur**

**NIB No. 62/86/2017/SPP/MACT/MANIREDA**

**With funding from  
The Ministry of Law & Justice (MOJ)  
Government Of India  
Department of Justice, New Delhi**

**For the Year 2018-19**

**Implemented by  
Manipur Renewable Energy Development Agency (MANIREDA)**

**(An autonomous Govt. Agency under Power Department, Govt. of Manipur)  
2<sup>nd</sup> Floor, South Block, Secured Office Complex, Near 2<sup>nd</sup> M.R. Gate,  
Imphal-Dimapur Road, Imphal-795001, Manipur.**

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

Cost of bid document: Rs 500/-

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## 1. Notice Inviting Bid

### Manipur Renewable Energy Development Agency (MANIREDA)

An autonomous Govt. Agency under the Department of Power, 2<sup>nd</sup> Floor, South Block, Secured Office Complex,  
Near 2<sup>nd</sup> M.R. Gate, Imphal-Dimapur Road,  
Imphal-795001, Manipur e-mail: manireda99@yahoo.com; Website: [www.manireda.com](http://www.manireda.com)

**NIB No. :**

**62/86/2017/SPP/MACT/MANIREDA**

Imphal, dated: 06 /08 /2018

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 2 Nos. of 5kWp SPV Plant, (ii) installation & Commissioning of 2x 5 KW SPV Power Plant. (iii) 5yrs Maintenance and Performance Warrantee Contract (MPWC) at 2(Two) Subordinate Courts in Manipur.	62/86/2017/SPP/MACT/MANIREDA	5x2=10kW	Rs. 500/-	Rs 50,000/- thousand

Tender Document can be downloaded from website: [www.manireda.com](http://www.manireda.com) / [www.manipur.gov.in](http://www.manipur.gov.in) for which the cost of Tender Document amounting Rs 500/- 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://manipur.tenders.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 21/08/2018. Hard copy of bid documents and Cost of Tender document and Earnest Money shall be submitted from 12.00 noon of 21/08/2018. The Technical bid shall be opened at 11.00 p.m, on 21/08/2018. 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.	62/86/2017/SPP/MACT/MANIREDA
2.	Scope of work	(i) Design, Manufacturing, supply of 2 Nos of 5kWp SPV Plant (ii) Installation & commissioning of 5x2kWp SPV Plant (iii) 5(five) years Maintenance and Performance Warrantee Contract (MPWC) of 5kW SPV Power Plant each at 2 Subordinate Court of Manipur. Estimated quantity to be installed is 5kW x 2Nos.=10kW 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), An autonomous Govt. Agency, under the Power Deptt., 2 <sup>nd</sup> Floor, South Block, Secured Office Complex, Near 2 <sup>nd</sup> M.R. Gate, Imphal-Dimapur Road, Imphal-795001, Manipur.
4.	Last date of uploading of bid document in the e-tender	Date : Up to 11.00 noon of 21st August, 2018. e-tendering site : <a href="https://manipurenders.gov.in">https://manipurenders.gov.in</a>
5.	Last date & time of submission of Hard copy of bids	Date : Last date of Uploading From 11.00A.M. of 21th August, 2018 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 : 21nd Sept, 2018. Time : at 12.30 P.M. Venue : Office of the Director, MANIREDA, An autonomous Govt. Agency, under the Department of Power, 2 <sup>nd</sup> Floor, South Block, Secured Office Complex, Near 2 <sup>nd</sup> M.R. Gate, Imphal-Dimapur Road,
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, An autonomous Govt. Agency under the Department of Power, 2 <sup>nd</sup> Floor, South Block, Secured Office Complex, Near 2 <sup>nd</sup> M.R. Gate, Imphal-Dimapur Road,
8.	Cost of bid document (Non-refundable)	Rs 500/- in the form of D.D. favouring Director MANIREDA payable at Imphal.
9.	Earnest Money (Refundable)	Rs. 50,000/- (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)

An autonomous Govt. Agency, under the Power Deptt. 2<sup>nd</sup> Floor, South Block, Secured Office Complex,  
Near 2<sup>nd</sup> M.R. Gate, Imphal-Dimapur Road, Imphal-795001, Manipur.

Website : [www.manireda.com](http://www.manireda.com)

NIB No. : 62/86/2017/SPP/MACT/MANIREDA

Date :06/08/2018

- Sub : (i) Design, Manufacturing, supply of 2nos of 5kWp SPV Plant  
(ii) Installation & commissioning of 5x2kWp SPV Plant  
(iii) 5(five) years Maintenance and Performance Warrantee Contract (MPWC) of 5kW SPV Power Plant each at 2 Subordinate Court of Manipur under the funding from the Ministry of Law & Justice (MOJ), Govt. of India, Deptt., of Justice, New Delhi.

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](http://www.manireda.com)) or [www.manipur.gov.in/https://manipur.tenders.gov.in](http://www.manipur.gov.in/https://manipur.tenders.gov.in)) and submit the cost of the bid document amounting Rs 500/-, 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 resiles 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://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-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 10 KW 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://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.: 62/86/2017/SPP/(MACT)/MANIREDA (Technical Bid)", to the office of MANIREDA, addressed to Director, MANIREDA, 2<sup>nd</sup> Floor, South Block, Secured Office Complex, Near 2<sup>nd</sup> M.R. Gate, Imphal-Dimapur Road, Imphal-795001, Manipur.  
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.
- 6.7 Technical Bid should not contain price of any item. Such cases, even if found anywhere, shall not be given any cognizance.
- 6.8 Only one copy of Technical Bid (hard copy) should be submitted.
- 6.9 The hard copy with earnest money and cost of tender document has to be submitted during the period from 12.00 noon of 21/08/18 and opened technical BID on 12.30 P.M. of 21/08/18.
- 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 2 (two) identified Subordinate Courts in the state. MANIREDA reserves the right to award work/part of the work, to any bidders at any Subordinate Court 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.
- 7.8 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 30 KWp capacity should have been installed / commissioned)
- 12.2 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.
- 12.3 Cumulative Experience of the Bidder in executing contracts of Grid Solar Power plants (Installed & Commissioned )should be equivalent of the tender value(10kW)(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.
- 12.4 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 two financial years should be at least 50.00 Lakh. 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)
- 12.6 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
- 12.9 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 2 nos. of 5kWp SPV Power Plant at identified sites via transits godown of MANIREDA for checking/store entry,(ii) installation, testing & commissioning of 5kWp SPV Plant each at 2(two) Subordinate Courts & (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**, 2<sup>nd</sup> Floor,South Block,Secured Office Complex, Near 2<sup>nd</sup> M.R. Gate, Imphal-Dimapur Road, Imphal-795001, Manipur. , 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](http://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 GST, insurance, transportation etc FOR at 2 nos. Subordinate Court (b). Installation & Commissioning including GST, Labour Cess, Service charge etc and (c). MPWC for 5 years period including service charge).
- 2.6 The bidders shall be ranked L1, L2, L3 ....as per the Total Price (P). The Purchase/Tender Committee of MANIREDA will have the discretion to divide the quantity to be supplied among any number of technically qualified bidders at the approved rate. The work order will be issued subject to the acceptance of the bidders to supply at 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.
  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.
  1. 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).
- (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 whom payment is to be made	Name of bank	Bank Branch address	Account Number	Type of account	MICR Code	IFSC code	PAN No.

**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 **one (1) month** from the date of issue of the Work

Order whichever is earlier and completion of installation commissioning within 3 (three) months from the date of work order.

**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 sub-vendor. 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 Silicon Terrestrial PV Module
2. Cell Type : Poly Crystalline Silicon 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 V
8. 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 :  $\geq 14.0\%$
12. System Voltage (Vsys) : 1000 Vdc
13. 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 2018-19(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 to 24degree)
5. Direction : True South at the site.
6. Nut & Bolt : Stainless steel
7. 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 bus-bar 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:-

1. Enclosure material : M.S with Powder coated
2. Mounted type : Wall mounting type
3. Cable entry : Bottom
4. MCB : 2 Nos. (63A DP)
5. DC Am-meter : 1 Nos. (0-75A)
6. DC Volt Meter : 1 No. (0-150V)
7. DC Shunt : 1 No. (75A)
8. Accessories : As per requirement
9. Drawing : As per actual

**SPECIFICATION OF POWER CONDITIONING UNIT  
(CHARGE CONTROLLER & Hybrid 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 Subordinate Courts of Manipur.

**5 kVA Hybrid Inverter**

The details specifications are as follows:-

<b>Sl. No.</b>	<b>Operating Parameter</b>	<b>Desired specification</b>
01.	Rating of PCU	5 KW
02.	Charge Controller Type	MPPT
03.	Maximum Open Circuit PV Volts	300 Volts
04.	MPPT Voltage Range	140V – 260 V
05.	Input	96V nominal DC Solar PV Array
06.	Wave form	Sine Wave, 1 Ø, 2 Wire
07.	Output Voltage	1 Ø, 230V AC ( $\pm 2\%$ )
08.	Frequency	50 Hz, $\pm 0.5$ Hz
09.	Total Harmonic Distortion	Less than 3%
10.	Maximum current Ripple	4% PP
11.	Reactive Power	0.95 Inductive to 0.95 Capacitive
12.	Efficiency	90% and above at full load
13.	Operating Temperature Range	0°C to 55°C
14.	Over Load Capacity	150% of continuous rating for 5 sec.
15.	Over Load Protection	Auto Reset
16.	Protections	<ul style="list-style-type: none"> <li>• Grid Over / Under Voltage</li> <li>• Grid Over / Under Frequency</li> <li>• Inverter Overload</li> <li>• Unbalance Output load</li> <li>• Short Circuit (line-to-line &amp; line-to-ground)</li> <li>• Battery Low / High Shutdown</li> <li>• Solar / Battery Reverse</li> <li>• Anti Islanding</li> </ul>
17.	Display	Front Panel of PCU Displaying: <ul style="list-style-type: none"> <li>• Battery Voltage &amp; Current</li> <li>• PV Voltage, Current, Instantaneous Power (kW), Instantaneous Energy (kWh)</li> </ul>



		<ul style="list-style-type: none"> <li>• Grid Voltage &amp; Current</li> <li>• Load Voltage &amp; Current</li> <li>• Mode of Operation, Active Fault</li> </ul>
18.	Front Panel LED Indicators	<ul style="list-style-type: none"> <li>• System ON</li> <li>• Inverter ON</li> <li>• SPV Charging</li> <li>• Battery Low</li> <li>• System Fault</li> </ul>
19.	Degree of Protection	IP 20 / 21
20.	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 400AH 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	<ul style="list-style-type: none"> <li>• Short circuit</li> <li>• Deep discharge</li> <li>• Input surge voltage</li> <li>• Over current</li> <li>• Battery reverse polarity</li> <li>• Solar array reverse polarity</li> </ul>
04.	Indication	<ul style="list-style-type: none"> <li>• Input ON</li> <li>• Control ON</li> <li>• Charger ON</li> <li>• Charger over load</li> <li>• Battery on Trickle Charging</li> <li>• Battery Disconnected/Fault</li> </ul>
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	<ul style="list-style-type: none"> <li>• Charging &amp; Discharging Current</li> <li>• Charging &amp; Discharging Voltage</li> <li>• Charging &amp; Discharging AH</li> </ul>
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

### SPECIFICATION BATTERY BANK

96V Tubular VRLA GEL type Battery Bank having a storage capacity of 400AH. The Battery Bank should be comprised of 48 nos. of 2V 400Ah 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 400 AH (@C/10 at 27°C)
4. Cell (V & AH) : 2V 400AH (@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. Standard Steel 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 : MCB for connection & disconnection of PCU and Load
5. MCB : MCB for connection & disconnection of PCU and Grid
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 voltage       | : Up to 1100 V  |
| 4. Grade                 | : 1.1 kV  |
| 5. Colour                | : To suit Red, Black, Blue                            |
| 6. Temperature           | : -15 deg. C to + 70 deg. C                           |
| 7. Standard              | : 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 BUCKETS

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 detail 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 Subordinate Court for day today operation, troubleshooting, maintenance etc. at each Subordinate Court 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 Subordinate Court for each worksite quarterly (every three months) to MANIREDA within 15<sup>th</sup> 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.
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 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.: 62/86/2017/SPP/(MACT) /MANIREDA

To,

The Director

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

**Sub : Offer In Response to Notice Inviting Bid No. 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.: 62/86/2017/SPP/(MACT) /MANIREDA  
To,

Date : .....

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

**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 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

**9. Proforma – 3**

<b>Information about the Bidding Firm</b>
---

NIB No.: 62/86/2017/SPP/(MACT) /MANIREDA

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./Public Ltd. Co./Public Sector)			
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)	2015-16	<b>Production</b>	<b>Sales</b>
		2016-17		
		2017-18		
17.	Name of Material and Model Type Offered			
18.	Name of Manufacturer of SPPs with Full Address			



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

Yours faithfully,

(Signature of Authorized Signatory)

Name :  
Designation :  
Company seal :

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

**10. Proforma – 4**

<b>Details of Orders Received and Executed in Past 5(five) Years</b>
--

NIB No. : 62/86/2017/SPP/(MACT) /MANIREDA

Date : .....

Details of Orders Received & Executed by the Manufacturer/Supplier for Supply of SPPs to SNA/ Govt. Organization/Others 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. : 62/86/2017/SPP/(MACT) /MANIREDA

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 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**

<b>Format for Guarantee Card to be Supplied with Each SPP</b>
---

NIB No : 62/86/2017/SPP/(MACT) /MANIREDA

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	
.	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	
	(f) Rated V & AH Capacity at C/10 Rated at 27 <sup>0</sup> 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 Delivery of the Number of SPPs Received by the Consignee as**  
**Proof of Compliance by the Supplier**

NIB No. : 62/86/2017/SPP /(MACT) /MANIREDA

Date : .....

**CERTIFICATE**

Consignee .....

Name of Department .....

Address .....

Certified that ..... nos.(in word.....) of 5kWp Solar Power Plant( 20 nos x 250W SPV Module complete with array structure,48nosx2V 400AH Tubular VRLA Type flooded lead acid battery with rack,5KVA PCU/Inverter complete with ACDB, DCDB, cables, Solar Still, Exhaust Fan, Fire extinguisher etc) has been supplied, installed and commissioned at designated 2 sites (Subordinate Court) by M/s..... with funding from Ministry of Law & Justice (MOJ), Govt. of India, Department of Justice, New Delhi, as per terms of Work Order No.....dtd.....

Signature of Consignee.....

Name:.....

Designation:.....

Seal .....

**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. : 62/86/2017/SPP/(MACT) /MANIREDA

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	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 5x2 kWp SPV Power Plant in Manipur**

BID No. : 62/86/2017/SPP/(MACT) /MANIREDA

Date : .....

To,

The Director

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

**Price Schedule**

Sl.	Item	Total Bid Quantity	Price in Rupees	
			Unit	Total Price
1	2	3	4	5 = 3 x 4
1.00	System cost on Supply of 5kWp Solar Plant(SPP)	2		
1.01	Add IGST @5% on system cost			
1.02	Transit Insurance			
1.03	Transportation			
1.04	Add IGST@ 5%			
2.00	Installation & Commissioning charge			
2.01	Labour Cess @1% on Installation			
2.02	Add IGST @18% on installation			
3.00	MPWC(Maintenance Performance Warranty Contract)			
3.01	Labour Cess @1% on MPWC			
3.02	Add IGST @18% on MPWC			
3.03	Add 3% Contingency on installation & commissioning			
3.04	Add 11.75% Agency charge installation & commissioning			
3.05	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

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 a manufacturing company/Firm/corporation registered in India of SPV Cells/Modules/battery/PV system electronics/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 GST registration Certificate		Hard copy
6	Annexure-VI	A summarized sheet of cumulative experience of the bidder in PV systems/power plants 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 two financial years(A summarized sheet of turnover of last two 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/Photocopy 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	A tentative 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 Signing Bid Document & Attending Bid Opening Meeting		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		<b>Only Uploading</b>

**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 :

To,

The Director  
Manipur Renewable Energy Development Agency (MANIREDA)  
Imphal, Manipur

Dear Sir,

**APPLICATION FOR PAYMENT**

Pursuant to the above referred Contract dated .....the 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**

<b>MATERIALS INSPECTION CLEARANCE CERTIFICATE (MICC)</b>
--

1. Name of the Work: Design, manufacture, supply, installation and commissioning of 2Nos. of 5kWp Solar Power Plant including 5 years MPWC in Manipur.
2. Name of Worksite/Location: 2 Subordinate Court in 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, Extinguishers, sand Buckets							
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/s ..... at 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 2 Nos. of 5kWp Solar Power Plants including 5 years MPWC in Manipur.
- 2. Name of Worksite/Location:**
- 3. Name of the Firm/Contractor. :** .....
- 4. Work Order No.:** ..... dated .....
- 5. Date 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 Extinguishers,sand Buckets				
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/s .....at the site and found okay.

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

20. LIST OF THE ( TWO) SUBORDINATE COURT of Manipur

<b>Sl. No.</b>	<b>Districts</b>	<b>Beneficiary office with address</b>	<b>Contact Person</b>
1.	Imphal West	MACT Court Complex, Lamphel	
3.	Thoubal District.	Family Court, Thoubal	

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