

MEGHALAYA NON-CONVENTIONAL AND RURAL ENERGY DEVELOPMENT AGENCY

Near B.S.F. Camp, Mawpat, P.O. Mawpat, Shillong – 793 012
Phone No.0364-2537343/2536138#Fax No.0364-2537611
E-Mail: mnreda.dir@gmail.com Website: www.mnreda.gov.in

NOTICE INVITING TENDER

for

**1kWp Standalone SPV Power Plant in
different Common Service Center (CSCs) in
the state of Meghalaya**

For the Financial Year 2013-14

Sponsored By

Ministry of New and Renewable Energy

Government of India

MEGHALAYA NON-CONVENTIONAL AND RURAL ENERGY DEVELOPMENT AGENCY

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NIT No.: MNREDA/1596/2014/10

Dated: Shillong, the 20th Jan,2014

Tender Document for Design, Manufacture, Supply, Installation, Testing & Commissioning, Operation and Maintenance 225nos of 1kWp Standalone SPV Power Plant in different Common Service Center (CSCs) in the state of Meghalaya.

Tender document issued to M/S _____

against application vide letter No. _____

dated _____ and against payment of Rs. 5,000/- (Rupees five thousand) only

vide Cash/Bank Draft No. _____ dated _____

of _____ Bank towards cost of Tender Document Part – A

and Part – B.

Issued By :

For Member Secretary Cum Director
Meghalaya Non-Conventional & Rural
Energy Development Agency

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PART – A

Commercial & Technical Bid

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NOTICE INVITING TENDER

No. MNREDA/1596/2014/10

Dated: Shillong, the 20th Jan,2014

Sealed Tender with 90 (ninety) days validity are invited from MNRE Channel Partner/ Solar Module Manufacturer / PCU Manufacturer recognized by the Govt. of India for Design, Supply, Testing, Installation and Commissioning of 1kWp Standalone SPV Power Plant in different Common Service Center (CSCs) in the state of Meghalaya.

Tender document/paper will be issued or downloading from website of MNREDA with effect from 21.01.2014 to 05.02.2014 on payment of Tender cost of Rs. 5,000/- (Rupees Five thousand) only either by cash or Bank Draft drawn in favour of Director, MNREDA, Shillong.

Last date of submission of bids is on 06.02.2014 at 1:00 P.M. and Commercial and Technical Bid will be opened on the same date at 3:00 P.M.

Tender document shall be issued on any working day within the specified date.

Member Secretary Cum Director
Meghalaya Non-Conventional and
Rural Energy Development Agency
Shillong

Copy to:

1. The Additional Chief Secretary
To the Govt. of Meghalaya
Power Department
 2. Dr. G. Prasad
Director,
Ministry of New and Renewable
Energy,
Block – 14, CGO Complex,
New Delhi
 3. State Informatics Officer
National Informatic Centre,
Shillong, Meghalaya
 4. The Indian Express Ltd.
23, Doctor S.K. Bhuyan Road,
Dinghali, Pukhuri (East),
Guwahati – 781 001
 5. Notice Board (MNREDA)
- For information and necessary action
- With a request to display the NIT and the Tender Document enclosed herewith in the website
- With a request to publish in one issue of Financial Express. Editions of Delhi, Mumbai, Kolkata & Chennai and submit the Bill in Duplicate along with sample of advertisement of all editions for necessary payment.
- For Display

Member Secretary Cum Director
Meghalaya Non-Conventional and
Rural Energy Development Agency
Shillong

INSTRUCTION TO BIDDER

1. Minimum Criterion for Bidding:

The bidder must have following minimum criterion for bidding:

- (i) The bidder should be MNRE Channel Partner / Solar Module Manufacturer / PCU Manufacturer.
- (ii) The bidder must have their solar modules/products approved by MNRE/ IEC.
- (iii) The bidder must have an average annual turnover of more than Rs. 10 (Ten) Crores in last two financial years in solar PV business.
- (iv) The bidder must have experience of executing cumulative order for more than 100kW solar power plants in North Eastern states.
- (v) The bidder must have adequate service network for maintenance of the system in North eastern Region.

Non-submission of above documents may result in rejection of bid.

2. Tender Document

In addition to this Tender document, any other documents/ instructions/ amendments/ revisions issued by MNREDA to the bidder till the due date of opening of the bid shall also be deemed to be integral part of the bid document. Failures to furnish all the information as per the bid document in every respect result in rejection of bid.

3. Cost of Tender Document

3.1 Tender document can be purchased from MNREDA office on payment of Tender cost of Rs. 5,000/- (Rupees Five thousand) only either by cash or Bank Draft drawn in favour of Director, MNREDA, Shillong.

3.2 Bidders may also download the bid document from MNREDA website and submit the cost of the bid document of requisite value in the form of Demand Draft along with Part – I (Technical Bid).

Non-submission of Cost of Tender document may result in rejection of bid

4. Earnest Money: -

4.1 Earnest Money Deposit of 1% for Schedule Tribe and Scheduled Caste and backward classes and 2% for general on the amount quoted in the form of Bank

Guarantee/Call Deposit/FDR from any Scheduled or Nationalized bank of India pledged in favour of Director, MNREDA, Shillong should be furnished without which Tenders will be rejected.

4.2 The Manufacturer or Supplier who claim exemption shall have to produce a relevant paper from the proper authority i.e. NSIC certificate etc.

5. Distribution of Work: -

The Agency (MNREDA) will distribute the work into the 1st three lowest quoted i.e. L1 – 50%, L2 – 30% and L3 – 20% provided L2 & L3 willing to supply at L1 quoted rate.

6. Submission of Bid

6.1 Commercial & Technical Bid:

- i. Tender Paper (Part – “A”) duly signed and seal by the Authorized persons of the firm.
- ii. Cost of Tender document
- iii. Technical Specification duly filled in as per tender document.
- iv. Documents required under **Minimum Criterion for Bidding**.
- v. VAT registration copy
- vi. Documentary evidence in support of Financial Soundness of the tenderer.
- vii. Any deviation with justification thereof.
- viii. Any Other.

6.2 Financial Bid:

- i. Tender Paper (Part – “B”) duly signed and seal by the Authorized persons of the firm.
- ii. Price Bid can be quoted on plain paper but it should be in the format given.
- iii. Earnest Money Deposit (EMD)

6.3 Part –A should be sealed in a separate envelope marked as “Commercial & Technical Bid” and Part – B should be sealed in a separate envelope marked as “Financial Bid”.

6.4 Part –A (Commercial & Technical Bid) should not contain price of any items. Such cases, even if found anywhere, shall not be given any cognizance.

6.5 Part – B (Financial Bid) should not contain any technical matter or other matter except price & EMD. The date of opening of the price bid will be notified after opening of Technical bid evaluation.

6.6 Part – A and Part – B envelop should be sealed in a third envelop marked as “Offer for 1kWp Standalone SPV Power Plant in different Common Service Center (CSCs)”.

NIT No., Date of opening of Part – A, Name & Address of the bidding firm and should be addressed to Director, Meghalaya Non-Conventional And Rural Energy Development Agency, Near B.S.F. Camp, Mawpat, P.O. Mawpat, Shillong – 793 012.

7. Opening of Financial Bid

Date of opening of Financial Bid shall be intimated individually to that firm who is qualified for Commercial and Technical offer.

8. Rate Quoted

The rate should be legible written in English both in figure and in words. In case of any contradictions between the prices mentioned in figures and words, the prices mentioned in words shall be considered final. Also, in case of any arithmetical error in regard to the total amount and individual rates, the individual rates shall be taken as final and the total amount shall be adjusted accordingly.

9. Price Quoted

The price quoted should be Firm and as per the format provided in the tender document. Price break up of various components must be clearly indicated in the format, fails to comply the above will result in cancellation or rejection of the tender.

10. Additional Information

Any other particular information, which are required to be furnished as per detailed tender papers but which have not been specifically indicated.

11. Deviation

Any deviations to the terms and conditions stipulated in detailed tender papers including payment terms etc. must be clearly specify if there is any deviation with justification.

12. Postal

No postal transaction shall be entertained for obtaining bid documents.

13. Other Terms & Conditions

- 13.1 Insertion, post-script, addition and alteration shall not be recognized unless confirmed by bidder's signature and stamp.
- 13.2 Incomplete tender or tenders not submitted as per requirement as indicated in the NIT are likely to be rejected.
- 13.3 Bidders shall submit their offer strictly as per terms and conditions of the tender document without any deviation.
- 13.4 Failure to furnish all information and documentary evidence as stipulated in the bid document or submission of an offer that is not substantially responsive to the bid document in all respects shall be summarily rejected.
- 13.5 All bids will be received in duly sealed cover within the due date and time. Bids received after the due date and time is liable for outright rejection.
- 13.6 MNREDA reserves the right to reject part or whole of the bid/order without assigning any reason thereof, postpone the date of receipt and opening of the bids or cancel the bid without bearing any liability, whatsoever, consequent upon such decision.
- 13.7 Issuance of bid documents shall not construe that the bidders would be automatically considered qualified.

GENERAL TERMS & CONDITIONS

1. **Signing of Tender Paper**

The Tender Document as issued by MNREDA should be sealed and signed by the Authorized person of the firm and it will be view as acceptance of each and every conditions containing therein.

2. **Attestation**

All supporting papers (photocopies) which are not in original should be duly attested by the gazetted officer.

3. **Time of Completion**

The work shall be completed within 180 (One Hundred Eighty) days from the date of issue of final work order.

4. **Agreement**

An Agreement has to be signed within 15(Fifteen) days of issue of final work order. The Agreement shall be prepared by the purchaser on a stamp paper duly signed by the authorize person of the Firm and Purchaser. The maintenance contract agreement shall be separately signed on completion of installation and commissioning work of the system.

5. **Warranty**

The System supplied should be guarantee for a period of 2 years and the Module should be warranted for a period of 10 years. The Warranty period is from the date of complete of Installation and Commissioning of the System.

6. **Payment Terms and Conditions**

The Bidders shall be entitled to the following payment terms:

- (a) Mobilization Advance: The contractor shall be paid 30% (thirty percent) on equipment cost as mobilization advance against a Bank Guarantee of equivalent / like amount from any Nationalized Bank or Scheduled Bank valid for a period of 180 (One Hundred Eighty) days from the date of acceptance of work.

- (b) 40% (forty percent) of the contract value of the plant/equipment shall be paid against receipt of materials at site in good conditions.
- (c) 20% (twenty percent) of the contract value of the plant/equipment along with other payments shall be paid on complete Installation and Commissioning.
- (d) Balance 10% (ten percent) to be paid at the end of 2 (two) years of warranty period or against submission of Bank Guarantee of equivalent/like amount valid for a period of two years from the date of Commissioning.
- (e) The Annual/comprehensive maintenance contract payment shall be made on percentage of 30%, 30% and 40% at the end of 3rd, 4th and 5th years basis.

In the event of contractor not being able to supply or to carry out the work or a part of the work assigned to him in accordance with the terms of this contract, the purchaser shall have the right to recover any sums advanced from the contractor from his/its assets/amount submitted as mobilization advance.

7. Subletting of Contract

The Contractor shall not without the prior consent in writing of the Purchaser, assign or sublet or transfer his contract, or a substantial part thereof other than raw materials or for any part of the work of which makers are named in the contract provided that any such consent shall not relieved the contractor from any obligation duty or responsibility under the contract.

8. Contractor to Inform Himself Fully

- (a) The Contractor shall be deemed to have carefully examined the general conditions, specification and Schedules and also to have satisfied himself as to the nature and character of the plant and equipment to be supplied and installed under the contract, the site conditions and all relevant matter and detailed.
- (b) If he shall have any doubt as to the meaning of any portion of the contract/work order, he shall before signing/accepting it, set forth the particulars thereof and submit them to the Engineer-in-charge in writing in order to remove such doubts.

9. Service Center

It is mandatory that the bidder should have a local service centre in the state and preference will be given to those Firms who have the service centre in the State.

10. Breach/ Cancellation of the Contract

- (a) In case of non-performance in any form or change of the covenants and conditions in this contract by contractor, MNREDA shall have the power to annual, rescind, cancel or terminate the contract and upon its notifying in writing to the contractor that it has so done, this contract shall absolutely determine. The decision of MNREDA in this regard shall be final and binding.
- (b) The purchaser may cancel the contract or a portion thereof and if so purchase or authorized purchase of the plant/equipment not so delivered or order plant equipment of similar description (opinion of the purchaser shall be final) at the risk and cost of contractor. If the contractor had defaulted in the performance of the original contract, the purchaser shall have the right to ignore his tender for risk purchase even though lowest.

11. Responsibility of the Contractor

The contractor shall guarantee and be entirely responsible for the execution of the contract in accordance with the specification, schedules and appendices. He shall further guarantee and be responsible for the quality and workmanship of all materials and completed works, correct designs drawings, correct delivery of materials, erection, testing and commissioning, within the warranty period from the date of commissioning on completion of commissioning a separate agreement shall have to be signed in their respect for comprehensive maintenance contract.

12. Tools and Tackles

The contractor shall provide all tools and trackles conforming to relevant BIS safety and technical standard for proper execution of work, MNREDA shall in no way, he responsible for supply of any tools and tackles for implementation of the work.

13. Safety Measures

The Contractor shall have to undertake necessary measures for providing adequate safety and precautions to avoid any accident which may cause damage to any equipment/material or injury to workmen. MNREDA shall not responsible for any such accidents.

14. Delivery of System

- (a) The contractor shall deliver the plant/systems in accordance with the terms of the contract at the time/times at the place/places and in the manner specified in the contract. The contractor shall comply with instructions that may be given by the purchaser from time to time regarding the transit of the plant and material.
- (b) Notification of delivery or dispatch in regard to each and every consignment shall be made to the purchaser immediately after dispatch or delivery. The contractor shall supply to the consignee invoice in duplicate and packing account of all stores delivered or dispatch by him.
- (c) In case of any occurrence of loss or damage in transit upto destination, it shall be liability of the contractor or initiate or pursue the claim with Insurance Company. He should take immediate steps to repair the damaged apparatus or replacement thereto. Any extension of time limit required in such contingency will be considered by the purchaser on merit.

15. Arbitration

- (a) Except where otherwise provided if at any time question dispute or difference whatever shall arise between the contractor and the purchaser upon or in the relation to or 1 (one) connection with this contract either of the parties may give to the other notice in writing of the existence of such a question on rejection of the matter, the dispute or difference shall be referred to the sole arbitration appointed by MNREDA at the time of dispute after ascertaining the terms of reference mutually.
- (b) The Arbitration will preferably be a member of Arbitration Council and arbitration proceeding will take place as per provision or arbitration Act 1940 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply.
- (c) The contractor will ensure that the work under this contract shall continue during arbitration proceeding and dispute and no payments due from or payment by the purchaser shall be withhold on account of such proceeding except to the extent which may be in dispute.

16. Court of Competent Jurisdiction

The Courts of Shillong High Courts only have jurisdiction in this case.

SCOPE OF WORK & TECHNICAL SPECIFICATION

Solar PV Power Plants are proposed with an objective to attain following benefits:

The objective of the scheme is to provide online services of government, financial, business and social at the door step of citizens, through 1,00,000 internet enabled ICT centers called Common Services Centers (CSC). Each CSC is operated by a Village Level Entrepreneur (VLE) and serves a cluster of about 4-6 villages. VLEs are selected by the Service Center Agencies (SCAs), the implementation partners under the CSC scheme.

Currently there are 225 CSC across the 11 Districts of Meghalaya. CSCs offer a wide range of services in their villages, in a efficient and transparent manner, including government services like online certificates, financial services likes banking, educational services like digital literacy, distance education, business services like telecom, employment, train & bus ticketing etc.

1. Scope of Work

The Scope of Work shall include the following:

- a) Design, manufacture, supply of Solar PV Power Plant
- b) Detailed planning of smooth execution of the project
- c) Performance testing of the complete system
- d) Warranty of the system for 2 year faultless operation. & 3 years operation & maintenance
- e) After sales service

2. General Technical Description & Configuration

The Solar Photovoltaic Power Plant shall have capacity of 1.0 kWp to cater the electricity demand of 5-6 hours duration/day. The system should have the autonomy of 2 consecutive sunless days and shall have the provision of charging battery bank through mains as well. It should be designed such that during sunny hours the loads are fed from SPV Power Plant in addition to battery charging. If the power produced from the Power Plant is not sufficient to feed the loads then the balanced power will be taken from the grid and battery simultaneously according to the available source. The Power Plant shall provide a reliable and independent power supply at a voltage and frequency levels to suit the grid voltage and frequency.

Each Solar PV Power Plant should consist of following

Sl. No.	Item Description	Qty
1.	Solar PV Module – 1kW	1 set
2.	Power Conditioning Unit – 48V 1KVA	1 set
3.	Battery Bank – 48V 200Ah	1 set
4.	Module Mounting Structure	1 set
5.	ACDB & DCDB	1 set
6.	Earthing & Lighting Arrestor	1 set
7.	Cables & Earthing Material	1 set

3. Solar PV Module

Crystalline high power solar cells shall be used in the Solar Photovoltaic module. Each Solar module shall consist of redundantly interconnected solar cells and shall have the Peak Power rating of not less than 125Wp. To connect the solar module interconnection cable shall be provided. Module shall be made of high transmissivity glass front surface giving high encapsulation gain and silicon rubber edge sealant for module protection and mechanical support. All materials used shall have a proven history of reliable and stable operation in external applications. Solar module shall be crystalline type, employing lamination technology using established polymer (EVA) and tedlar laminate.

Solar module shall be in accordance with the requirements of IEC 61215.

4. Power Conditioning Unit

Power Conditioning Unit (PCU) provides an un-interrupted AC power using battery bank. Array output will be fed to PCU which consists of MPPT based Charge Controller, Inverter, Voltage Stabilizer and distribution panel along with necessary Displays, Indicators and Alarms and major protections and should conforming to IEC 61683/ IS 61683 Standard for efficiency measurement should conform to IEC 60068-2(1, 2, 14, 30) or equivalent BIS standard for environmental testing & IC 21 for enclosure (indoor application).

The power conditioning unit shall convert DC Power by SPV modules and store in battery bank and good quality AC Power output is delivered. Bidders should enclose an undertaking that the PCU supplied conform the performance as per MNRE requirements/specifications.

Common Technical Specification:

1. Switching device IGBT/MOSFET Type MPPT based charger to charge 48 V(nominal) battery bank
2. with >90% solar charge controller efficiency.
3. Input voltage from PV array 48 V (nom)
4. It shall have MCB of suitable rating for connection and disconnection of PCU from load.
5. Protections:
6. Short circuit protection
7. Input under voltage / Deep discharge of battery
8. Input surge voltage protection
9. Over current
10. Battery reverse polarity protection
11. Solar array reverse blocking diode (provided in array junction box)
12. DC rated fuse at input and AC rated fuse at output with suitable contactor/solid-state switches for safe start-up & shutdown of system
13. Ambient operation (max) 50 degree Celsius
14. Relative humidity 95% maximum
15. Finish Epoxy powder coating
16. Load test at factory minimum 6 hours at full load

Features:

1. Bi-directional type inverter 1KW with mains Battery charging current of 35 A
 2. Stand-alone and hybrid mode of operation.
 3. High quality with high efficiency and reliability
 4. Microprocessor based intelligent controller
 5. Self monitoring capability and status monitoring through GPRS.
 6. Highly reliable & efficient solid-state switching devices
 7. Rated for continuous operation at full load
 8. High over-load capability of 200% surge for 10 seconds
 9. Inverter output power factor of 0.8 lag
 10. Efficiency : 90% at rated load and normal operating conditions
 11. 83% (min) at 25% load and nominal input voltage with UPF load
 12. THD : Sine wave output, with less than 4% THD at full load UPF and nominal input voltage
 13. Output voltage 230V +/- 1%
 14. Output frequency 50Hz ± 0.5Hz
 15. Indications :
 - Inverter ON
 - Grid ON
 - Array ON
 - Inverter Under Voltage /Over Voltage
 - Inverter Overload /Inverter Over Temperature
 - Battery Low
- Enclosure IP 21 (For indoor application)
Temperature compensated battery charging feature

5. Battery Bank

- The batteries should be AGM- VRLA/Tubular Gel – 48V 200Ah.
- The batteries shall use 2V battery capacity to be designed for C10 rate.
- Suitable carrying handle may be provided.
- A suitable battery rack with interconnections & end connector shall be provided to suitably house the batteries in the bank.
- The batteries shall be suitable for recharging by means of solar modules via incremental / open circuit regulators.
- Battery interconnecting links shall be provided for interconnecting the battery in series and in parallel as needed.
- Connectors for inter cell connection (series / parallel) shall be maintenance free screws. Insulated terminal covers shall be provided.

6. Module Mounting Structure

The Module Mounting structure is to be manufactured with Mild-steel angles, Sheets, Mesh & channels preferably spray/Hot dip Galvanized. These structures are to be designed for suitable mounting on RCC structure on Rooftop / Ground. These structures are to be designed to withstand wind up to 150 Km/hr from backside of the panels, as per specific requirement at Site. The structures should be designed for either fixed tilt or with provision for seasonal adjustment to maximize the power generation. The structures compatible for on roof and on ground installation as well (Bidder awarded with Work-order for specific location shall visit where the installation is to be done).

7. ACDB and DCDB

AC Distribution Board/ Isolator Box:

- An ACDB shall be provided in between PCU and Loads.
- It shall have MCB of suitable rating for connection and disconnection of PCU from load.
- It shall have MCB's to supply power to loads such as computer, lighting loads and power plug sockets.
- It shall have energy meter to record energy supplied to loads.

DC Distribution Board:

This shall consist of MCCBs of suitable specifications & which can withstand respective flow of current, with the purpose of providing the option for isolating the battery bank & SPV arrays should be made. Best quality Ah meter has to be installed to measure the cumulative charging & discharging status of battery bank.

8. Earthing & Lightning Arrestor

Earthing Protection:

The structure of the PV Module will have to be grounded properly using adequate number of earthing kits. All metals casing/ shielding of the plant will be thoroughly grounded to ensure safety of the power plant.

Lightning Arrestor:

The SPV power plant shall have to be provided with lightning and over voltage protection. The main aim in this protection will be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc.

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PART – B

Financial Bid

PART -B

Bidding Scheduled:

S.No.	SPV Power Plant capacity (kWp)	Cost in Rupees					
		Module	Battery	Inverter	Structures	Balance of System	Total

Costing of the Project:

S.No	Systems	Unit Cost(Rs.)	Quantity (No.)	Total Cost (Rs.)
1.	Cost of System Hardware			
2.	Cost of transportation and insurance			
3.	Cost of civil works and electrical works			
4.	Cost of Installation and commissioning			
5.	Cost of Annual Maintenance for 5 years			
6.	Cost of Battery replacement			
7.	Any other related costs			
	Total Cost			

- Note** : 1 Above quoted price are complete in all respect as per Technical Specifications inclusive of all Central/State/Local taxes & duties, packing, forwarding, transit insurance, loading & unloading, transportation & other charges etc.
2. Certified that rates quoted are as per specifications, terms & conditions mentioned in the bid document.

Date:

Signature of Tenderer with Company seal