

MEGHALAYA NON-CONVENTIONAL AND RURAL
ENERGY DEVELOPMENT AGENCY.

TENDER DOCUMENT

FOR

SUPPLY OF 15,000 NOS. OF 3W
LED BASED SOLAR LANTERNS
IN THE STATE OF MEGHALAYA.

NIT No.MNREDA/1626/2014/2

Tender Issue To :- _____

Issued by :- _____

For Member Secretary- cum-Director

Meghalaya Non-Conventional and Rural Energy

Development Agency, Shillong.

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MEGHALAYA NON-CONVENTIONAL AND RURAL ENERGY DEVELOPMENT AGENCY

Near BSF Camp Mawpat, Shillong-793012.
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1. NOTICE INVITING TENDER.

No.MNREDA/1627/2014/2:- sealed tenders are invited for supply of white LED based Solar Lantern from reputed manufacturers who indigenously manufacture one or more major sub systems of solar lantern.

Tender document/paper will be issued or downloaded from website of Meghalaya Non-Conventional and Rural Energy Development Agency(MNREDA) with effect from 05-01-2015 to 20-01-2015 on payment of tender cost of Rs.10,000/- (Rupees ten thousand) only either by cash or Bank Draft drawn in favour of Member-Secretary-cum-Director,Meghalaya Non-Conventional and Rural Energy Development Agency(MNREDA)

Last date of submission of bids is on 21-01-2015 at 1.00 p.m. and Commercial and Technical bids will be opened on the same date at 3.00 p.m.

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

Member Secretary-cum-Director,
Meghalaya Non-Conventional and Rural
Energy Development Agency (MNREDA),
Shillong.

Memo.No.MNREDA/1626/2014/2 –ADated Shillong, the 23rdDecember,2014

Copy to :-

1. The Additional Chief Secretary,
to the Govt.of Meghalaya,
Power Department.
2. The State Informatics Officer,
National Informatics Centre
Meghalaya, Shillong. } With a request to display the NIT &
Tender Document enclosed herewith on the
Website.
3. M/s. Eastern Chronicle
Shillong. } With a request to publish in one issue
of your newspaper and submit
the bill in duplicate along with sample of
Advertisement for necessary payment.
4. Notice Board.
MNREDA, Shillong. For display

Member Secretary-cum-Director.
Meghalaya Non-Conventional and Rural Energy
Development Agency,Shillong.

INSTRUCTIONSTO BIDDER :-

1. 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. Failure to furnish all the information as per the bid document in every respect shall result in rejection of bid. Non-submission of cost of tender document shall result in rejection of bid.

2. Cost of Tender Document:-

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).

Tender document can be purchased from MNREDA Office on payment of tender cost of Rs.10,000/- (Rupees ten thousand) only either by cash or Bank Draft drawn in favour of Member Secretary-cum-Director, MNREDA.

3. Earnest Money :-

Earnest Money deposit of 1% for Scheduled 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 Member Secretary-cum-Director, MNREDA.

The Manufacturer who claim exemption of EMD shall have to produce relevant papers from the proper authority i.e. NSIC registration certificate etc.

SUBMISSION OF BID :-

Commercial & Technical Bid :-

- 4.1. i) Tender Paper (Part-“A”) duly signed and seal by the authorized persons of the firm.
- ii) Cost of Tender document
- iii) Technical Specifications duly filled as per format (Annexure-I).
- iv) VAT registration and VAT clearance certificate up to March, 2014.
- v) Any deviation with justification thereof.
- vi) Any other.

Financial Bid :-

- 4.2. i) Tender paper (Part-“B”) duly signed and sealed 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)

4.3. Part-A should be sealed in a separate envelope marked as “Commercial and Technical Bid” and part-B should be sealed in a separate envelope marked as “Financial Bid”.

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

4.5. 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.

4.6. Part-A and Part-B envelope should be sealed in a third envelope marked as “Offer for supply of 15000 Nos. 3W LED lantern.

NIT No. date of opening of Part-A, Name and Address of the bidding firm should be addressed to Member Secretary Cum Director, Meghalaya Non-Conventional and Rural Energy Development Agency (MNREDA), Near BSF Camp Mawpat, P.O.Mawpat, Shillong-793012.

5. Opening of Financial Bid :-

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

6. Rate Quoted :-

The rate should be 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.

7. 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. Failure to comply with the above will result in cancellation or rejection of the tender.

8. Additional Information :-

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

9. Deviation :-

Any deviations from the terms and conditions stipulated in detail in the tender papers including payment terms etc. must be clearly specified with justification.

10. Postal :-

No postal transaction shall be entertained for obtaining bid documents. In case the opening date is declared as holiday, tender shall be opened on the next working day at the same time as specified earlier.

11. Other Terms and Conditions :-

11(i) Incomplete tender or tenders not submitted as per requirement as indicated in the NIT are likely to be rejected.

11(ii) Bidders shall submit their offer strictly as per terms and conditions of the tender document without any deviation.

11(iii) 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.

11(iv) 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.

- 11 (v) 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.
- 11 (vi) Issuance of bid documents shall not be construed that the bidders would be automatically considered qualified.

GENERAL TERMS AND CONDITIONS

1. Signing of Tender Paper

The Tender Document as issued by MNREDA should be sealed and signed by the authorized persons of the firm and it will be viewed as acceptance of each and every condition containing therein.

2. Attestation

All supporting papers(Photocopies) which are not in original should be duly attested by a 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 7(seven) days from the date of issue of final work order. The Agreement shall be prepared by the purchaser on a stamp paper duly signed by the authorized person of the firm and purchaser.

5. Warranty

The System supplied should have guarantee for a period of 2(two) years and the module should be warranted for a period of 10(ten) years.

6. Payment Terms and Conditions

- (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 order.
- (b) 60% (sixty percent) of the contract value of the system shall be paid against receipt of materials at our District Head Quarter in good condition subject to availability of fund.
- (c) 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 receipt of materials at site.

In the event of contract 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 and conditions 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.

8. **Allocation of works** :- The Agency (MNREDA) will distribute the work into the 1st three lowest quoted rate i.e. L₁ - 50%, L₂ - 30% and L₃ - 20% provided L₂ & L₃ are willing to supply at L₁ quoted rate.

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 of Meghalaya.

10. **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 work.

11. **Delivery of System**

(a) The contractor shall deliver the systems in accordance with the terms of the contract at the time/times and at the place/places and in the manner specified in the contract.

(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 an invoice in duplicate and packing account of all stores delivered or dispatch by him.

(c) In case of occurrence of any loss or damage in transit up to destination, it shall be the liability of the contractor to 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.

12.Sample :- A sample of 3W LED lantern must be submitted along with the offer documents.

13.Inspection of Materials :- The materials will be dispatched to the purchaser after the inspection by the Director, Meghalaya Non-Conventional and Rural Energy Development Agency or his authorized representative at his premises at site and acceptance of the same. Meghalaya Non-Conventional and Rural Energy Development Agency reserves the right to test maximum of 5% of all materials to be supplied.

14. Court of Competent Jurisdiction:-

The Courts of Shillong only will have jurisdiction in the event of any dispute between the parties.

4. TECHNICAL SPECIFICATIONS OF THE 3W_p LED SOLAR LANTERN

A. PV Module

- (i) The PV modules must conform to the latest edition of any of the following IEC/equivalent BIS Standards for PV Modules design qualification and type approval:

Crystalline Silicon Terrestrial PV modules : IEC 61215/ISI4286

Concentrator PV Modules &Assemblies : IEC 62108

PV Modules used in system 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.

- (a) Capacity of the module should be more than **5.0 watt at 8.80 V**. PV Module should be approved by IEC/ may be TVV, Engineering Test Centre.
 - (b) The terminal box on the module should have a provision for opening it for replacing the cables, if required.
 - (c) The module should preferably have an arrangement(stand) for mounting at the optimum angle in the direction facing the sun.
 - (d) The PV modules must be tested and approved by one of the IEC authorized test centers. Test certificates can be from any of the NABL/BIS Accredited Testing/Calibration Laboratories. Qualification test certificate as per IEC standard W_p capacity will also be valid.
 - (e) Each PV module used in any solar power project must use a RF identification tag (RFID), which must contain the following information. The RFID can be inside or outside the module laminate, but must be able to withstand harsh environmental conditions.
- (i) Name of the manufacturer of PV module

- (ii) Name of the Manufacturer of Solar cells
- (iii) Month and year of the manufacture (Separately for solar cells and module)
- (iv) Country of origin (separately for solar cells and module)
- (v) I-V curve for the module
- (vi) Peak wattage, I_m , V_m and FF for the module
- (vii) Unique serial No. and model No. of the module
- (viii) Date and year of obtaining IEC PV module qualification certificate
- (ix) Name of the test lab issuing IEC certificate
- (x) Other relevant information on traceability of solar cells and module as per ISO 9000 series.

(B) Lamps

- (a) The lamp will be white light emitting diode (W-LED) diffused and soothing to eyes.
- (b) The luminous performance of LEDs used should not be less than 60 lumen per watt.
- (c) Use of LEDs, which emit ultraviolet light, are not acceptable.
- (d) The light output from the light source should be constant during the specified duration.
- (e) LED of only the manufacturers, i.e. Nichia/CREE/OSRAM/Philips Lumileds/SEOUL or LEDNIUN in the lamp shall be accepted.
- (f) The LED make, model number and technical characteristic of lamp should be furnished along with offer.

- (g) The LED should be top mounted or pillar mounted in such a way that it should also illuminate the base.
- (h) The illuminance (LUX) when measured from a distance of 1 feet away from the centre point of the bottom of the lantern in the same plane of horizontal should be min. 60 lux. Light coverage should 360 degree.

A. Battery

- (a) The battery shall be sealed maintenance free (SMF) of reputed make.
- (b) The capacity of the battery will be a minimum of 4.5 AH at 6V at C/20 discharge rate at 27° C.
- (c) 75% of the rated capacity of the battery should be between fully charged and load cut off condition.

B. Electronics

- (a) The total electronic efficiency should be at least 80%
- (b) The idle current consumption in the charge controller should not be more than 1 mA.
- (c) Electronics should operate at 6.0V and should have temperature compensation for proper charging of the battery throughout the year.
- (d) The light output should remain constant with variation of the battery voltage.
- (e) Necessary lengths of wire/cables (min.5 meters), switches suitable for DC use and fuses should be provided.

C. Duty Cycle

The LED solar lantern should provide a minimum of four hours of lighting per day under average daily solar radiation conditions of 5 kWh//sq.m. on a horizontal surface with one day back up i.e. total 8 hours in a charge. The actual duration of lighting may vary depending on the location, season etc.

D. Electronic Protection

- (a) Adequate protection is to be incorporated under no load conditions(e.g. when the lamp is removed and the lantern is switched ON).
- (b) Battery cut offs and reconnects should be provided to protect it against overcharge and deep discharge condition.
- (c) A fuse should be provided to protect against short circuit conditions.
- (d) A blocking diode, preferably a Schottky diode, should be provided as part of the lantern electronics to prevent reverse flow of current through the PV module, if such a diode is not provided with the module itself.
- (e) Full protection against open circuit, accidental short circuit and reverse polarity should be provided.

E. Other Features

- (a) Two LED indicators one for a green light to indicate charging in progress, and another red LED to indicate deep discharge conditions of the battery suggesting that load should be switched off and the battery must be charged immediately should be provided on the body of the lantern. The green LED should glow only when the battery is actually being charged.
- (b) The On/Off switch used in the lantern must be suitable for use in DC circuits and be reliable with long life. Use of electronic switch is allowed. A cable (2 core x 1.5 sq.mm) of suitable length (at least 5 meters) should be provided for interconnection between the module and the lantern.

(c) The following details should be marked indelibly on the lantern;

- Name of the Manufacturer or Distinctive Logo.
- Model Number

F. Additional features

(a) Dimming facility of 1/3 level must be provided

(b) Mobile charging socket should be provided. It should charge mobile phone during night also.

G. Warranty :-

The System supplied should have guarantee for a period of 2(two) years and the module should be warranted for a period of 10(ten) years.

H. Technical Requirement for Solar LED based Lantern :-

- (i) Load :- 3 watt W LED light
- (ii) Operational Hours :- 4 hours average daily
- (iii) System nominal voltage :- 6 volt DC
- (iv) Battery sizing :- 4.5 Ah at 6 volt
- (v) Solar Panel :- 5 watt at 6 volt

The specification as per format (Annexure-I) should be furnished in a separate sheet (without which tender will be rejected) :-

Annexure-I

1. BATTERY :-

- i) Make
- ii) Type of battery
- iii) AH capacity
- ii) Efficiency
- iii) Battery Rating
- iv) Separator Materials
- v) Discharge rate
- vi) Battery Box Material
- vii) Sl.No. & Date

2. DUTY CYCLE :-

- i) No. of light point
- ii) Average hour of operation/day

3.MODULE :-

- i) Make
- ii) Type of Module
- iii) Efficiency
- iv) Maximum Wattage
- v) Operating Voltage
- vi) Sl. No. & Date
- vii) Test Report from authorized Test Centre should be submitted along with.

4 LAMPS :-

- i) Make
- ii) Type of lamps
- iii) Light output

5. ELECTRONICS :-

- i) Name of manufacturer
- ii) Model/Type No.
- iv) Idle current
- v) Total electronic efficiency
- vi) Operating Voltage of the electronic circuit
- vii) Type of Inverter, sine wave /quasi sine wave.
- viii) Type of protection provided
- ix) Whether protection against battery overcharge or deep discharge provided
- x) Prevention of reverse current provided or not
- xi) Full protection against open circuit, accidental short circuit and reverse polarity provided or not.
- xii) Mobile charging provision.

Annexure-II.

5. PRICE SCHEDULE :

Sl. No.	System description	Unit	Quantity	Rate/Unit (Rs.)	Amount (Rs.)
1.	3 W LED based Solar Lantern FOR Shillong including transportation, packing, taxes and duties or any other expenses.	Nos	15000		
2.	Local transportation to all the District Head Quarters in the State of Meghalaya.	Nos	15000		
	Total	-	-		

(Rupees _____) only.

(Signature of the authorized signatory)

Name :- _____

Designation :- _____

Company Seal :- _____