

**MEGHALAYA NEW AND RENEWABLE ENERGY  
DEVELOPMENT AGENCY**

Near BSF Camp Mawpat, Shillong-793012.  
Phone No.0364-2537343/2536138# Fax No.0364-2537611  
E-Mail : mnreda.dir@gmail.com ## Website-www.mnreda.Gov.in

**REQUEST FOR QUOTATION (BID) FOR  
FINALIZATION OF RATE CONTRACT.**

**For Supply, installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years of SPV Street Lighting System (LED based), and Energy efficient LED lights.**

Specification No: MNREDA/1745/2017/01

# MEGHALAYA NEW AND RENEWABLE ENERGY DEVELOPMENT AGENCY

Near BSF Camp Mawpat, Shillong-793012.

Phone No.0364-2537343/2536138# Fax No.0364-2537611

E-Mail : mnreda.dir@gmail.com ## Website-www.mnreda.Gov.in

## Contents:

Sl no.	Description	Page
Part A – Commercial and Technical Bid		
01	Notice inviting tender	4
02	Check list	8
03	Undertaking of the bidders	9
04	Instruction to bidder	10 - 13
05	General condition of contract	14 - 18
06.	Technical specification	19 - 28
07.	General particulars of bidders	29
08.	Agreement form	30
	Format for Authority Letter for signing bid document & attending bid meetings	31
<b>Part B</b>		
14.	Financial bid	32- 34

# MEGHALAYA NEW AND RENEWABLE ENERGY DEVELOPMENT AGENCY

Near BSF Camp Mawpat, Shillong-793012.  
Phone No.0364-2537343/2536138# Fax No.0364-2537611  
E-Mail : mnreda.dir@gmail.com ## Website-www.mnreda.Gov.in

## TENDER DOCUMENT

1 .NIT NO.MNREDA/1692/2017/163

Dt.06/12/2017

2. Name of work : For Supply, installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years of SPV Street Lighting System, White LED (W-LED) based and Energy efficient LED lights.
3. Date of Issue Tender paper : From 07.12.2017 TO 19.10.2017
4. Date of Submission of Tender : 19.12.2017 to 12.00 noon
6. Date of Opening of Tender Commercial & Technical Bid : 19.12.2017 at 3.00 p.m.

Tender Document issued to M/s. \_\_\_\_\_

against application vide letter No. \_\_\_\_\_ Dated \_\_\_\_\_  
against payment of Rs 2000/- (Rupees two thousand)only vide Demand Draft/Banker's  
cheque/cash No. \_\_\_\_\_ dated \_\_\_\_\_ of Bank towards the cost of tender  
document (Non-refundable).

**PART-A**  
**TECHNICAL BID**  
( Page No. 4 -31 )

**PART-B**  
**FINANCIAL BID**  
( Page No.32-34 )

Issued by :  
Member Secretary-cum-Director,  
Meghalaya New and Renewable Energy  
Development Agency, Shillong.

**MEGHALAYA NEW AND RENEWABLE ENERGY  
DEVELOPMENT AGENCY**

Near BSF Camp Mawpat, Shillong-793012.  
Phone No.0364-2537343/2536138# Fax No.0364-2537611  
E-Mail : mnreda.dir@gmail.com ## Website-www.mnreda.Gov.in

**NOTICE INVITING ITEM RATE TENDER**

No.MNREDA/1745 /2017/01

Dated Shillong, the 7<sup>th</sup> Dec, 2017.

Meghalaya New and Renewable Energy Development Agency invites sealed ITEM RATE QUOTATION from eligible registered and experienced Indian Company/Manufacturer/ Firm/Joint Venture for Supply, Installation and Lighting System (LED Based) SPV Street Lighting System (LED based) in remote villages in the State of Meghalaya and Energy Efficient LED lights

Tender document will be issued during working days from 07.12.2017 to 19.12.2017 in the office of the undersigned on payment of Rs 2000/- (Rupees Two Thousand) only in Demand Draft/ Banker's Cheque should be drawn in favour of Member-Secretary-cum-Director, MNREDA, Shillong. tender documents shall be received in the office of the under signed up to 12.00 noon of 19.12.2017 and Technical bid will be opened at the same place and date from 3.00 p.m. onwards. The Tender Document can also be downloaded from our website [www.mnreda.gov.in](http://www.mnreda.gov.in).

The undersigned/MNREDA reserves all rights to cancel the tender and accept/reject any or all the bids without assigning any reasons thereof.

Member Secretary-cum-Director,  
Meghalaya New and Renewable Energy  
Development Agency, Shillong.

Copy to:-

1. The P.S to the Hon'ble Chief Minister/Chairman MNREDA Shillong for favour and kind information of the Hon'ble Chief Minister/ Chairman MNREDA.
2. The P.A. to the Principal Secretary to the Govt. of Meghalaya Power Department for favour and kind information of the Principal Secretary, Power.
3. The Under Secretary to the Govt. of Meghalaya, Power Department
4. The Project Officer MNREDA District Office,  
East/West Khasi Hills/Jaintia Hills/East/West Garo  
Hills/South Garo Hills/ and Ri-Bhoi.
5. The State Informatics Officer  
National Informatics Centre  
Meghalaya, Shillong  
With a reference to display the NIT and  
Tender documented on the Website Both  
(hard and soft copy) of the tender document  
is enclosed herewith.
6. The Director, DIPR , , Shillong  
With a request to publish in one issue of  
the newspaper published from Shillong and  
one issue of the national newspaper and  
the bill to be submitted in duplicate along  
with the sample of Advertisement for  
necessary payment.

Member Secretary-cum-Director,  
Meghalaya New and Renewable Energy  
Development Agency, Shillong.

## BACK GROUND INFORMATION ABOUT MNREDA.

Meghalaya New and Renewable Development Agency (MNREDA) is the state nodal Agency to promote, develop use of renewable energy and diffuse knowledge in the various fields of energy and in particular to assist the Government of Meghalaya and the Government of India in the efforts to develop non-conventional, renewable and alternate energy sources and technologies.

## OBJECTIVE OF THIS TENDER.

In view of the limited time available for completion of the project, it is contemplated to allocate the Supply/Installation to multiple qualified bidders subject to their acceptance of the L1 price discovered through this request for quotation (BID) and on receiving the sanctions .

# MEGHALAYA NEW AND RENEWABLE ENERGY DEVELOPMENT AGENCY

Near BSF Camp Mawpat, Shillong-793012.  
Phone No.0364-2537343/2536138# Fax No.0364-2537611  
E-Mail : mnreda.dir@gmail.com ## Website-www.mnreda.Gov.in

## Short Notice Inviting Quotation for Item Rate Contract

Name of work. For Supply, installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years of SPV Street Lighting System, (W-LED) and Energy Efficient LED lights.

Description of Item	Date and Time of Submission	Date and time of Opening.
1. SPV Street Lighting System as per enclosed Technical Specifications and consists of following major parts: <ul style="list-style-type: none"><li>➤ SPV module 50Wp</li><li>➤ Tabular Gel Battery 12V/75Ah</li><li>➤ LED Luminaire with charge controller electronics &amp; Cables</li><li>➤ Pole and other mechanical fixtures and civil material \I&amp;C</li><li>➤ Comprehensive maintenance Contract (CMC)</li></ul>	19/12/2017  At 12.00 noon	19/12/2017  At 15:00 hrs.
2. White LED (W-LED) as per enclosed Technical specification and Energy Efficient Bulbs 10W LED Bulbs 18W LED Tube light with fitting		

Member Secretary-cum-Director,  
Meghalaya New and Renewable Energy  
Development Agency, Shillong.

## CHECK LIST

To ensure that your tender submitted to MNREDA is completed in all respect, please go through the following check list and tick mark the enclosures attached with your tender.

Sl. No.	Description	Attached/not attached	Page No. of attached
1.	Earnest Money		
2.	Tender document fee-proof submission		
3.	Original document duly signed and sealed on each page as confirmation of acceptance of terms and conditions specified to the tender paper.		
4.	A copy of registration certificate of GST.		
5.	Details of Technical Specification highlighting salient feature of the system with IEC/Registration and last report.		
8.	Data sheet duly filled up and completed as per tender document.		
9.	Document(s) required under minimum qualifying criteria for bidding.		
10.	Declaration of the supplier.		
11.	Deviation , if any, from the specification terms and conditions etc.		
12.	Whether validity of your tender is confirmed as per document		
13.	Availability of service facilities in Meghalaya/North East and reference name of firm/address/phone No. and email etc.		
14.	Warranty of the system		
15.	SC/ST certificate for those claiming in rebate bid security.		

### DETAILS OF EMD AND TENDER DOCUMENT ATTACHED

Sl. No.	Description
1.	Tender document Fee: Tender document fee of Rs._____submitted in favour of Demand draft/Banker's cheque, drawn on_____Bank_____Branch, bearing DD/BC No._____dated_____cash is attached herewith.

Signature and seal of the Bidder.



**Under taking of the Bidder.**

To,

The Director,  
Meghalaya New and Renewable Energy  
Development Agency,  
Near BSF Camp (Mawpat), Shillong-793012.

Sir,

In compliance with your request for quotation (Bid), the undersigned hereby offers for supply, installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years of SPV Street Lighting System, White LED and Energy efficient LED lights at various places in different Districts of Meghalaya in accordance with the provisions of the contract and agrees that upon the receipt of the LOA/ work order and within 7(seven) days the undersigned will execute the contract form in accordance with provision of the tender and submitted earnest money @ 2% (1%in case of ST/SC) of the work value.

The undersigned further agrees that if awarded the contract (work),will commence this work within 15(fifteen) days after the receipt of the work order and will carry out the work within the time limit fixed in accordance with the condition of the contract.

Address : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature:

## 1. INSTRUCTION TO BIDDER.

This bidding document provides the information necessary for the bidders to prepare responsive bids, in accordance with the requirements of the MNREDA., it also provides the information on bid submission opening and evaluation. Further in all matters out of the provisions of this bidding documents, the laws of the union of India shall be the governing laws and courts of Shillong shall have exclusive jurisdiction.

### I) Due Dates

The due dates against the item rate tender for Supply, installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years SPV Street Lighting System, (LED Based) and Supply, installation and commissioning of Energy Efficient Bulb/ Tubelight based in the State of Meghalaya are as indicated below:

Sl.No	Particulars	Date	Time
1	Last date and time for payment of a non-refundable fee for the cost of bidding documents	19.12.2017	11.00 hours
2	Last date and time of submission of technical bids	19.12.2017	12.00hours
3	Date and time for opening of technical bid	19.12.2017	15.00 hours
4	Date and time for opening of financial bid		Will be intimated later.

In the event of the due dates being declared as holiday, the due date will be the next working day at the specified time.

## **Instruction to Bidder**

### **Tender document:**

In addition to this tender document, any other documents/ instructions/ amendments/ revisions issued by MNREDA to the Bidder till the date of opening of the bid shall also be deemed to be an integral part of the bid document in every respect & non-fulfilment of any condition stipulated in such amendments etc. may result in rejection of the bid.

### **Cost of tender document:**

Tender document can be purchased from MNREDA on payment of Rs.2000/- (Two Thousand) only either in cash or demand draft/banker's cheque drawn in favour of Member-Secretary-Cum-Director, MNREDA, Shillong.

Bidders may also download the bid document format from the MNREDA website ([www.mnreda.gov.in](http://www.mnreda.gov.in)) and the fees to be submitted in the form of Demand Draft/ Banker's Cheque.

### **Commercial & Technical Bid shall consist of the following documents:**

- (i) Tender paper (Part-A) duly signed and sealed by authorized person(s) of the firm.
- (ii) Cost of tender document, if downloaded or certified copy of money receipt for the tender document issued by MNREDA.
- (iii) Data sheet duly filled up and completed as per tender document.
- (iv) Documents required under minimum qualifying criteria for bidding.
- (v) Any deviation with justification thereof
- (vi) The supporting documents should be attested by self-attested
- (vii) Any other document(s) as mentioned in this tender document

### **Financial Bid shall consist of the following documents:**

- i) Tender paper (Part-B) duly signed and sealed by the authorised person(s) of the firm.
  - ii) Price bid should be quoted in the format given.
- 1.1 Commercial & Technical Bid should be sealed in a separate envelope, hereinafter referred to as "First Envelope" and marked as "Commercial & Technical Bid"
  - 1.2 Commercial & Technical bid should not contain price of any items otherwise the bid shall be disqualified.
  - 1.3 Financial bid should be sealed in a separate envelope, thereinafter referred to as "SECOND ENVELOPE" and marked as "Financial Bid"
  - 1.4 Financial bid should not contain any technical matter or other matter except price bid. The date of opening of the price bid will be notified to qualified bidders after commercial and technical bid evaluation.
  - 1.5 First Envelope and Second Envelope should be sealed in a third envelope marked as "Tender Offer" for the name of work and No. along with name of the firm and full address.

1.6 Any bid quoted below par is in admissible and shall be summarily rejected.

**Opening and evaluation of tender:**

On the date and time indicated in the NIT schedule, only the outer envelope and First Envelope shall be opened. If the cost of the tender document is found to be in order, then the commercial and technical bid document shall be accepted and kept for evaluation. Otherwise, the tender document shall stand rejected and shall be returned to the bidder.

The bid document which is accepted shall be evaluated first as per the qualifying criteria and if found to be qualified, the technical and commercial bid shall be evaluated.

If the bid document is not found to be qualified as per the qualifying criteria, it shall be treated as non-responsive and the technical commercial bid shall not be evaluated and shall be returned to the bidder.

Only the bidders whose technical and commercial bids are responsive shall be eligible for opening of the financial bids.

**Opening of financial bid:**

Date of opening of financial bid shall be intimated individually to those bidders who have qualified in the technical and commercial offer.

The price quoted should be firm and valid for 1(one) year from the date of opening of the price bid. The price should be quoted as per the format provided in the tender document. Price break-up of various components must be clearly indicated in the format and failure to comply with the above shall result in rejection of the bid.

The rate(s) should be written in English, both in figure and words. In case of any difference between the prices mentioned in figures and words, the prices mentioned in words shall be considered as 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 calculated accordingly.

Price quoted should be firm and F.O.R. destination, including all taxes including GST and all duties, packing, forwarding freight, insurance and any other incidental charges.

**Contract Performance Guarantee(CPG) :**

The successful bidder shall furnish a Contract Performance Guarantee @ 10% of the bid amount quoted in the form of Bank Guarantee/Call Deposit/FDR within 15 (Fifteen) days from the date of the award of the contract. The Contract Performance Guarantee should be valid for a period of five year initially and may be extended if required.

**Additional Information:**

Any other information(s) which are required to be furnished as per detailed tender paper but which have not been specifically indicated should be furnished.

1. Other terms and conditions:

- 1.1. Insertion, post, script, addition and alteration shall be confirmed by the bidder's signature and stamp.
- 1.2. Incomplete tender or tenders not submitted as per requirement as indicated in the NIT shall be rejected.
- 1.3. Bidders shall submit their offer strictly as per terms and conditions of the tender document.
- 1.4. 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.
- 1.5. All bids shall be received in duly sealed cover only within the due date and time. No bids shall be received after the due date and time.
- 1.6. 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.
- 1.7. Issuance of bid documents shall not be construed that the bidders would be automatically considered as qualified.

## **GENERAL TERMS AND CONDITIONS**

### **Signing of tender paper**

The tender document as issued by MNREDA should be signed on every page by the authorised person of the firm and it will be viewed as acceptance of each and every condition containing therein.

### **Agreement**

An Agreement has to be signed within 15(fifteen) days of issue of the final work order. The Agreement shall be prepared by the successful bidder in the prescribed format (Appendix-I) on a non-judicial stamp paper of Rs.100.00 (Rupees one hundred) only and signed by the authorized persons of the firm and MNREDA. The annual maintenance contract agreement shall be signed separately on completion of installation and commissioning of the system.

### **Warranty**

The system supplied should be under warranty for a period of 5 years and the SPV Module for a period of 25 years from the date of commissioning of the system.

### **Payment terms and conditions**

#### **The bidders shall be entitled to the following payment terms:**

75% (Seventy five percent) of the contract value shall be paid against receipt of materials at site and in good condition.

15%% (Fifteen percent) of the contract value shall be paid on completion and commissioning of the system.

Balance 10% (Ten percent) shall be released after complete testing and commissioning and after submission of performance report duly certified by the concerned Project Officer.

Separate Agreement has to be signed for the comprehensive Maintenance Contract By the Contractor/Firm.

### **Scope of work.**

The broad scope of work should be Supply, installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years of SPV Street Lighting System( LED based) in the state of Meghalaya. On Build, Operate, Maintain, & Transfer (BOMT) basis and Supply installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years of Energy Efficient LED Bulbs/Tubelight.

The component of work is supply, installation of solar street lighting (LED based) and Supply, installation of Energy Efficient LED Bulbs/Tubelight in the State of Meghalaya. The final figures shall depend on actual sanction which is likely to change from time to time .

Any other items not specifically mentioned in the specifications but which are required for erection, testing, commission and satisfactory operation of the entire scope of works are deemed to be included in the scope of this specification unless specifically excluded.

**Eligibility and Qualification Criteria:**

This invitation companies bids, issued by MNREDA is open to all reputed firms including Companies, Corporations, Government Owned Enterprises registered and incorporated in India as per Company Act, 1956/2013 (with amendments from time to time) the Bidders should have supplied, installed & commissioned and tested a minimum of single works of 02kWp capacity or A cumulative achievement of 10 kWp on of Solar power plant/ Solar Home Lighting (LED Based) SPV Street Lighting System (LED based)

In Govt. aided/ Govt institution /Private Sector etc. with work order along with the project Completion Certificate from the institution must be enclosed to support.

The average turnover of Bides for last three financial years i.e. (2014 -15 2015 – 16 2106 - 2017) should at least be 50 Lakhs (Rupees Fifty lakhs) only.

The bidder should have adequate financial stability and status to meet financial obligation pursuant to the scope of work. Two (2) Copies of the profit and loss account including Profit after Tax (PAT) and balance sheet for the last 3 years must be submitted along with the bid. Also bidder should certify from their banks that they have solvency of more than RS 20.00 lakhs as to carry out the project smoothly.

The bidder should have valid GST Registration Certificate, Service Tax Registration Certificate, PF Registration Certificate, State VAT/TIN registration certificate. A copy of which should be enclosed.

A firm which has been engaged by the employer to provide consultancy services for the preparation or implementation of a project, and any of its affiliates, shall not be eligible for bidding.

Bidder should be ISO certified for the following and submit the copy of the certification

- (i) ISO-9001 (ii) ISO-18001 certification. (iii) ISO-14001

**Contract Performance Guarantee(CPG) :**

- i) The successful bidder shall furnish a Contract Performance Guarantee @ 10% of the bid amount within 15(Fifteen) days from the date of the award of the contract. The Contract Performance Guarantee should be valid for a period of five year initially and may be extended if required.
- ii) In the event of the contractor not being able to supply out to carry out the work or a part of the work assigned to him in accordance with the terms of this contract, the Contract Performance Guarantee shall be forfeited. Further, MNREDA shall have the right to recover any sums advance to the contractor as mobilization advance.

**Subletting of Contract.**

The Contractor shall not, without the prior consent in writing of the MNREDA, assign or sublet or transfer his contract, or a substantial part thereof other than raw materials or any part

of the work of which makers are named in the contract, provided that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract.

### **Contractor to Inform himself fully**

The Contractor shall be deemed to have carefully examined the general conditions, specifications and Schedules and also to have satisfied himself as to the nature and character of the system and equipment to be supplied and installed under the contract, the site conditions and all relevant matters.

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 MNREDA in writing in order to remove such doubts.

### **Service Centre**

It is mandatory that the bidder should have a local service centre in the North Eastern Region and preference will be given to those firms who have the service centre in the State of Meghalaya.

### **Authority of Person Signing the Documents**

Authorization letter as per Proforma- 2 for the person signing the bid document or attending the bid meeting should be furnished.

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, MNREDA may without prejudice to other civil and criminal remedies, cancel the bid / contract and hold the signatory liable for all costs and damages.

### **Breach/ Cancellation of the Contract**

In case of non-performance in any form or change of the covenants and conditions in this contract by the contractor, MNREDA shall have the power to **annul**, rescind, cancel or terminate the contract and upon its notifying in writing to the contractor that it has so done, this contract shall be absolutely determined. The decision of MNREDA in this regard shall be final and binding.

### **Responsibility of the Contractor**

The contractor shall guarantee and be entirely responsible for the execution of the contract in accordance with the specifications, 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. On completion of commissioning, a separate agreement shall have to be signed in respect of a comprehensive annual maintenance contract for a period of three years after the warranty period.



### **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 MNREDA from time to time regarding the transit of the plant and material.

(b) Notification of dispatch or delivery in regard to each and every consignment shall be made to the MNREDA immediately after dispatch or delivery. The contractor shall submit to the MNREDA consignee invoice in duplicate and packing account of all stores dispatched or delivered by him.

(c) In case of any occurrence of loss or damage in transit up to destination, it shall be the liability of the contractor to initiate and pursue the claim with the Insurance Company. He should take immediate steps to repair the damaged equipment or arrange a replacement thereto. Any extension of time limit required in such contingency will be considered by MNREDA on merit.

### **Inspection of Material**

The material shall be dispatched by the supplier after inspection by the Director-cum-Member-Secretary, MNREDA or his representative. The supplier shall give 7 days written notice of any material ready for inspection. The material shall be erected in the project only after acceptance of the same. The installation of the work shall be carried out under the close supervision of the Project Officer, MNREDA. The final inspection after installation and commissioning shall be carried out by Project Officer, MNREDA. MNREDA can also get the systems tested by any approved test centre/laboratory. Rejected material (if any) will be replaced by the supplier at its cost within a stipulated time.

### **Force Majeure :**

The contractor shall not be liable for any penalty for delay or for failure to perform the contract for reasons of "Force majeure" such as natural calamities, and any other acts provided that the contractor shall, within 10(ten) days from the beginning of such delay, notify the MNREDA in writing of the cause of delay. MNREDA shall verify the facts and grant such extension as facts justify. Delay in supply of any accessories of solar system like PCU, battery bank etc. by the related firms, to whom the bidders has placed order shall also not be treated as force majeure.

### **Rejection of works :**

In the event of any of the material supplied/work done by the contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of this contract specifications, MNREDA shall either reject the material and/or work and advise the contractor to rectify the same. The contractor on receipt of such notices shall rectify or replace the defective material and rectify the work, free of cost. If the contractor fails to do so, MNREDA may:

a) At its option, replace or rectify such defective materials and/or work and recover extra cost so involved from the contractor plus 15% (fifteen) percent service charges of the cost

of such rectification from the contractor or terminate the contract for balance work/supplies with enforcement of penalty as per contract.

b) Defective materials/workmanship will not be accepted under any condition and shall be rejected outright without compensation. The contractor shall be liable for any loss/damage sustained by MNREDA due to defective work.

**Penalty for delay in completion of work:**

If the contractor fails to complete the erection, testing and commissioning etc. within the time schedule specified in the work order, including any extension granted there to, MNREDA will recover from the contractor as penalty a sum of one percent (1.0%) of the system price of the incomplete portion of the work for each calendar month of delay or part thereof. For this purpose, the date of taking over shall be reckoned as the date of completion. The total penalty shall not exceed 5% (five percent) of the contract price.

**Validity of the offer.**

The offer shall be considered as valid up to 12(twelve) months after the opening of the tender.

**Non-Assignments :**

The contractor shall not assign or transfer the work orders issued as per this contract or any part thereof to any other person/party without the prior approval of MNREDA.

**Income Tax:-**

Without prejudice to the obligations of the contractor under law, any Income Tax, which MNREDA may be required to deduct by law/statue shall be deducted at source and shall be paid of the contractor. MNREDA shall provide the contractor a certificate for such deduction of tax.

**Court of Competent Jurisdiction :**

Any disputes shall be referred to the courts of Shillong which shall have absolute jurisdiction to entertain and try the case.

# TECHNICAL SPECIFICATIONS FOR SOLAR PHOTOVOLTAIC STREET LIGHTING SYSTEMS

## BROAD PERFORMANCE SPECIFICATIONS

PV Module	30 Wp under STC
Battery	Minimum 120 Wh Lithium Ferro phosphate battery
Light Source	White Light Emitting Diode (W-LED) 7 Watt (Max.), W-LED luminaire, dispersed beam, soothing to eyes with the use of proper optics and diffuser
Light Out put	Multiple Light levels: The lamp should have two levels of light to take care of different lighting needs during the night. <input type="checkbox"/> <b>Minimum 16 Lux when measured at the periphery of 4 meter diameter from a height of 4 meter (at "High" illumination level). The illumination should be uniform without dark bands or abrupt variations.</b> <input type="checkbox"/> <b>Minimum 8 lux at lower illumination level</b> (Higher light output will be preferred)
Mounting of light	Pole mounted, Minimum 5 meters above the ground level
Electronics	Overall total Efficiency of the Electronics should be Minimum 90%
Duty Cycle	Dusk to Dawn 4 Hours full light, rest of the time at lower light level, <b>with motion sensor.</b> <input type="checkbox"/> In case any movement is there, it senses it and glows to full level. <input type="checkbox"/> Then it comes back to lower level after sometime, automatically.

# **TECHNICAL SPECIFICATIONS FOR SOLAR PHOTOVOLTAIC LIGHTING SYSTEMS (Off-grid Solar Applications)**

## **TECHNICAL DETAILS**

### **PV MODULE**

- i. Indigenously manufactured PV modules should be used.
- ii. The power output of the module under STC should be a minimum of 30 Wp.
- iii. The PV module should be made up of crystalline silicon solar cells and must have a certificate of testing conforming to IEC 61215 Edition II / BIS 14286 from an NABL or IECQ accredited Laboratory.
- iv. The Load voltage\* of 16.40 V for 12 V battery or appropriate voltage for charging of battery used, under the standard test conditions (STC) of measurement.
- v. **The module efficiency should not be less than 12 %.**
- vi. The terminal box on the module should have a provision for opening, for replacing the cable, if required.
- vii. There should be a Name Plate fixed inside the module which will give:
  - a. Name of the Manufacturer or Distinctive Logo.
  - b. Model Number
  - c. Serial Number
  - d. Year of manufacture
- viii. A distinctive serial number starting with NSM will be engraved on the frame of the module or screen printed on the tedlar sheet of the module.

\*The Load voltage conditions of the PV modules are not applicable for the system having MPPT.

### **BATTERY**

- i. Minimum 120 Wh Lithium Ferro Phosphate Battery.
- ii. Battery should conform to the latest BIS/ International standards.

### **LIGHT SOURCE**

- i. The light source will be of white LED type.
- ii. The colour temperature of W-LEDs used in the system should be in the range of 5500oK–6500oK.
- iii. LEDs should not emit ultraviolet light.
- iv. The light output from the W-LED light source should be constant throughout the duty cycle.
- v. The lamps should be housed in an assembly suitable for outdoor use.

## **ELECTRONICS**

- i. The total electronic efficiency should be at least 85 %.
- ii. The idle current should be less than 10ma
- iii. The voltage drop from module terminals to the battery terminals should not exceed 0.8 volts including the drop across the diode and the cable when measured at maximum charging current.
- iv. The PCB containing the electronics should be capable of solder free installation and replacement.

## **ELECTRONIC PROTECTIONS**

- i. The system should have protection against battery overcharge, deep discharge condition.
- ii. Adequate protection should be provided against battery reverse polarity.
- iii. Fuses should be provided to protect against short circuit conditions. Fuse is not mandatory, in case, over current protection is provided in the driver circuit.
- iv. Protection for reverse flow of current through the PV module(s) should be provided.

## **MECHANICAL COMPONENTS**

- i. A corrosion resistant metallic frame structure should be fixed on the pole to hold the SPV module.
- ii. The frame structure should have provision so that the module can be oriented at the suitable tilt angle.
- iii. The pole should be made of Galvanised Iron (GI) pipe.
- iv. The height of the pole should be 5 metres above the ground level, after grouting and final installation.
- v. The pole should have the provision to hold the luminaire.
- vi. The Luminaire housing should be water proof (IP 65) and should be painted with a corrosion resistant paint and should be housing the battery.

Alternatively:

A vented, acid proof and corrosion resistant metallic box or plastic box [made of Polypropylene-Copolymer (PP-CP)] with a locking arrangement for outdoor use should be provided for housing the battery.

## **INDICATORS**

The system should have two indicators, green and red.

The green indicator should indicate the charging under progress and should glow only when the charging is taking place. It should stop glowing when the battery is fully charged.

Red indicator should indicate the battery "Load Cut Off" condition

## **QUALITY AND WARRANTY**

- i. **The complete Solar Street Lighting System (including battery) will be warranted for a period of Five years from the date of supply.**
- ii. **The PV module(s) will be warranted for a minimum period of 25 years from the date of supply.** PV modules used in Solar Home Lighting System must be warranted for their output

peak watt capacity, which should not be less than 90% at the end of Ten (10) years and 80% at the end of Twenty five (25) years.

iii. The Warranty Card to be supplied with the system must contain the details of the system. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

#### **OPERATION and MAINTENANCE MANUAL**

An Operation, Instruction and Maintenance Manual, in English and the local language, should be provided with the Solar Home Lighting System. The following minimum details must be provided in the Manual:

Basic principles of Photovoltaics.

A small write-up (with a block diagram) on Solar Home Lighting System - its components, PV module, battery, electronics and luminaire and expected performance.

Significance of indicators.

Type, Model number, voltage & capacity of the battery, used in the system.

The make, model number, country of origin and technical characteristics (including IESNA LM-80 report) of W-LEDs used in the lighting system must be indicated in the manual.

Clear instructions about mounting of PV module(s).

Clear instructions on regular maintenance and trouble shooting of the Solar Home Lighting System.

DO's and DONT's.

**TECHNICAL DATA SHEET**  
**B.SPV STREET LIGHTING SYSTEM**  
**GUARANTEED TECHNICAL PARTICULARS: Solar Street Lighting (LED Based System).**

Sl.No	Description	Proposed specification
<b>Name of Manufacturer</b>		
<b>Name of Bidder:</b>		
1.	Duty Cycle	
2.	Wind speed resistance of system	
<b>ELECTRONICS:</b>		
3.	Luminaire	
4.	LED lamp/batten make	
5.	LED lenses	
6.	Total lumen output	
7.	System wattage (LED + Driver)	
8.	Luminaire efficacy per watt	
9.	Driver type	
10.	Driver efficiency	
11.	Driver current	
12.	Luminaire housing	
13.	Ingress Protection	
14.	Luminaire arm	
15.	Dimming facility	
16.	Applicable Standard	
<b>SPV MODULE:</b>		
17.	Applicable Standard	
18.	Material structure of solar cell	
19.	VOC	
20.	Minimum power at Vmax	
21.	Cell efficiency	
22.	Country of manufacture	
23.	Mounting frame	
<b>BATTERY:</b>		
24.	Make (as per test report)	
25.	Type of battery	
26.	Capacity	
27.	Permitted depth of discharge	
28.	Reference of IS No.	
29.	Ampere hour efficiency	
30.	Watt hour efficiency	
31.	Type test certificate	
32.	Battery system back-up	
<b>BATTERY BOX:</b>		
33.	Battery box material and protection	

34	Battery box protection	
35.	Battery box support structure	
	<b>POLE:</b>	
36.	Type	
37.	Height	
38.	Thickness	
39.	Mass of zinc coating in grams per square metre	
40.	Applicable Standard	
	<b>CHARGE CONTROLLER:</b>	
41.	Rating	
42.	Type	
43.	Temperature compensated charging	
44.	Efficiency	
45.	Enclosure for charge controller	
46.	No load current	
	<b>INBUILT PROTECTIONS:</b>	
47.	Overcharge protection for battery	
48.	Deep discharge protection for battery	
49.	Reverse polarity protection for panel and battery	
50.	Temperature compensated charging for battery:	



## 5.1 Technical Bid Details for energy efficient 10 Watt LED Bulb

Sl. No.	Description	Minimum technical parameters
01	Light Source	SMD LED Chip
02	Lamp Wattage	10 W
03	CCT	Cool white (5700K to 6500K)
04	Led Chip Wattage	< 1 W
05	Base Cap	B22d (Bayonet Cap)
06	Luminous Flux Efficacy	>= 90 lm/W
07	Power Factor	Min. 0.9
08	Lamp Life Hrs	Min. 50,000 Hrs.
09	Operating Voltage Range	100 V — 300 V
10	Beam Angle	Min: 120 degree
11	CRI (Color Rendering Index)	Min. 80
12	Junction Temp.	Max. 85° C
13	Harmonics	Less than 15%
14	Lumen Maintenance	Min. 70% up to 50,000 hours
15	Working Temp.	-10° C to 40° C
16	SURGE VOLTAGE	Min. 1.5 kV

### Technical Bid Details for energy efficient 10 Watt LED Bulb

Sl. No.	Description	Minimum technical parameters
01	Led Fitting Set Type	T8, 4 FEET , 18 WATT
02	Total Power Consumption	18 WATTS
03	CCT	Cool White (5700K to 6500K)
04	Usage	CONTINUOUS
05	Luminous Flux Efficacy	>= 90 lm/W
06	Power Factor	Min. 0.9
07	Lamp Life Hrs	Min. 50,000 Hrs.
08	Operating Voltage Range	100 V - 240 V
09	Beam Angle	Min: 160 degree
10	CRI (Color Rendering Index)	Min. 80
11	Harmonics	Less than 15%
12	Lumen Maintenance	Min. 70% up to 50,000 hours

13	Working Temp.	-10 to 40 degree Celsius
14	Led Operating Current	< 0.06 A
15	Surge / Spike Protection	>1.5 KV AS PER IEC 61000-4-5.
16	Line Protection	Short Circuit And Over Voltage Protection
17	Driver	Inbuilt Constant Current Based Led Driver
18	Driver Efficiency	>=80%

## GENERAL REQUIREMENTS FOR LED AND LED BASED EQUIPMENTS:

Following are the BIS criterion for LED and LED based equipment.

1. IS: 513 - Cold-rolled low carbon steel sheets and strips
2. IS 12063- Classification of degree of protections provided by enclosures
3. IS 6873(Part 5)- Limits and methods of measurement of radio disturbance characteristic of electrical lighting and similar equipment.
4. IS 6873 (Part 5)- Equipment for General lighting purposes – EMC immunity requirement.
5. IS 13021 (Part 2)- Performance, AC supplied electronics ballast for tubular fluorescent lamps performance requirement
6. IS 10322 (Part 5/sec 1)- Fixed general purpose luminaries
7. IS 10322 (Part 1)- Luminaries - General requirement and tests.
8. IS 14700 (Part 3/sec2) -Electro Magnetic compatibility (EMC) -Limits for Harmonic current emission –THD <15%.
9. LED of NICHIA/ OSRAM/ SEOUL/ PHILIPS LUMILEDS/ LEDNUM or other reputed manufactured shall be used in the Luminaries.
10. The luminaries casing/ housing shall be of stainless sheet steel SS304 grade or aluminum having high conductivity preferably to grade 5000 or similar to high conductivity heat sink material
11. The electronic components used shall be as follows:-
  - a. IC (Integrated circuit) shall be of industrial grade or above
  - b. Metallic film/ paper/ polyester capacitor shall be rated for a sustained operating temperature of 105°C.
  - c. The resistors should be preferably made of metal film of adequate rating. The actual rating versus loading shall be by a factor of 3
  - d. The junction temperature of the switching devices such as transistors and MOSFETs etc. shall not exceed 125°C (allowing thermal margin of 25°C)
  - e. The protective cum adhesive coating used on PCBs should be cleared and transparent and should not affect colour code of electronic components or the product code of the company.
  - f. The construction of PCBs and the assembly for components for PCBs should be as per IS standards.
  - g. The electronics covered for this equipment shall pass all the tests called for in the above specification. The tenderer shall indicate the deviation or compliance otherwise the offer shall not be considered for evaluation.
  - h. The infrastructure for Quality Assurance facilities as called for in the above specification must be available at the manufacturing facility. In house testing facility for Quality Assurance should be present. The compliance shall be indicated clearly in the tender itself.
12. The connecting wires used inside the luminaries, shall be low smoke halogen free, fire retardant ebeam cable and fuse shall be provided in input side.

13. Care shall be taken in the design that there is no water stagnation anywhere. The entire housing shall be dust and water proof having IP65 protection as per 60529.
14. The LED Module(s), Driver gear, etc. shall be designed in such a way so that temperature of heat sink shall not exceed 150oC above the ambient temperature.
15. All the material used in the luminaries shall be halogen free and fire retardant confirming to UL94.
16. The manufacturer/ supplier should also offer Annual Maintenance Contract (AMC) package(s) for the luminaries for post Warranty period.
17. All the supplied luminaries shall carry permanent marking as “**NOT FOR SALE.**”

**Guaranteed Technical Particulars .**

**For 10W LED Bulbs.**

Sl. No.	Description	GUARANTEED TECHNICAL PARTICULARS(Agreed or value as specified)
01	Light Source	
02	Lamp Wattage	
03	CCT	
04	Led Chip Wattage	
05	Base Cap	
06	Luminous Flux Efficacy	
07	Power Factor	
08	Lamp Life Hrs	
09	Operating Voltage Range	
10	Beam Angle	
11	CRI (Color Rendering Index)	
12	Junction Temp.	
13	Harmonics	
14	Lumen Maintenance	
15	Working Temp	
16	SURGE VOLTAGE	

**For 18W LED Tube lights**

Sl no	Description	GUARANTEED TECHNICAL PARTICULARS (Agreed or value as specified)
1	Led fitting system	
2	Total Power Consumption	
3	CCT	
4	Usage	
5	Luminous Flus Efficiency	
6	Power factor	
7	Lamp life hrs	
8	Operating voltage range	
9	Beam angle	
10	CRI (Color rendering index)	
11	Harmonics	
12	Lumen maintenance	
13	Working temp	
14	Led operating current	
15	Surge Spike Protection	
16	Line protection	
17	Driver	

## **Annexure I.**

### **FORM- F1**

#### **SCHEDULE OF GENERAL PARTICULARS OF BIDDER.**

- 1 Name of the Bidder:
- 2 Postal address:
- 3 Email address:
- 4 Telephone/tele fax
- 5 Name and designation of the representative of the Bidder to whom all reference can be made to expedite technical coordination
- 6 Amount and details of earnest money deposited
- 7 Financial capacity of the bidder/firm for carrying out the work (Annual turnover during last three years as per Balance sheet)
- 8 Experience of executing similar type of projects on turnkey basis.
- 9 Details of company/firm registration with PAN and GST details

(Signature of Bidder)  
Seal of company

## Annexure II.

### AGREEMENT

This Agreement made on the \_\_\_\_\_ day of \_\_\_\_\_ two thousand and seventeen between M/s. \_\_\_\_\_ thereafter referred to as “The contractor” on the one part and the MEGHALAYA NEW AND RENEWABLE ENERGY, Meghalaya (hereinafter called as MNREDA”) on the other part.

Whereas the offer of the contractor contained in there tender No. \_\_\_\_\_ to “For Supply, installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years of SPV Street Lighting System, White LED (W-LED) based and Energy efficient LED lights has been accepted by MNREDA on the terms and conditions appearing hereinafter and for this purpose the details of the work have been specified in general conditions of contract, Scope work, Technical particulars and price schedule and Annexure. For the purpose these documents have been signed by \_\_\_\_\_ on behalf of the contractor and by MNREDA and which shall form the part of this contract (although separately set out herein) and are included in the expression “Contract”.

And **whereas the contractor has agreed to** “Supply, installation and commissioning including comprehensive maintenance contract (CMC) for 5 (five) years of SPV Street Lighting System, White LED (W-LED) based and Energy efficient LED lights” on contract basis as per the Price Schedule based on the contractors undertaking for the works within a period mentioned in work order from MNREDA Shillong Office and if the contractors fails to do so the contract price shall be subjected automatically to the penalty clause as detailed in the context tender

Now therefore these present witnesses and the parties aforementioned hereby agree and declare that in consideration of the requirement of the said work and satisfactory performance, the MNREDA Shillong will pay the contractor an amount specified in the Work Order issued by Office of the Director, MNREDA Shillong.

In witness where of the parties have signed this deed hereunder.

Signed

(For & on behalf of the MNREDA, Shillong)  
Contractor)

Signed

(For & on behalf of the Manufacturer)

Witness

In the presence of witness no 1

and of 2

**Form-F-II**

**Authority Letter for signing bid document & attending bid meetings.**

Letter No..... Date.....

To,

The Director (MNREDA)  
Meghalaya New and Renewable Energy  
Development Agency

Near B.S.F. camp, Mawpat, P.O. Mawpat, Shillong -793012

**Sub: Authority Letter for signing bid document & attending bid meetings**

**Ref No.** \_\_\_\_\_ **Date** \_\_\_\_\_

Dear Sir,

I do hereby authorize.....(Name and designation) to sign the bid document forming part of the bid and to attend the bid meeting to be held from time to time on our behalf.

He/ She is also authorised to provide clarifications/confirmations, if any & such clarifications/confirmations shall be binding on us. The specimen signature and photograph of .....is attached below:

(Specimen signature)  
Name.....  
Desugnation.....  
Seal.....

(Signature of authorised Signatory)  
Name.....  
Designation.....  
Seal.....

Yours Faithfully  
(Signature of authorised Signatory)

Name:

Designation:

**MEGHALAYA NEW AND RENEWABLE ENERGY  
DEVELOPMENT AGENCY**

Near BSF Camp Mawpat, Shillong-793012.

Phone No.0364-2537343/2536138# Fax No.0364-2537611

E-Mail : mnreda.dir@gmail.com ## Website-www.mnreda.Gov.in

**PART – B**

**FINANCIAL BID**



### SPV STREET LIGHTING SYSTEM.

SL NO	Items	Unit	Unit rate
1.	Supply of components and parts required in 7W LED based solar street lighting system.		
2.	Installation and commissioning of the systems (in respect of complete set)		
3.	CMC (3 years)of 7W LED street lighting system.		
	Total		

(Rupees \_\_\_\_\_)only.

Note : 1. The prices quoted above are complete in all respects as per technical specifications and inclusive of all central/state/local taxes and duties, packing, forwarding, transit, insurance, loading and unloading, transportation and other charges etc.

2. Certified that rates quoted are as per specifications, terms and conditions mentioned in the bid document.

Date :

Signature of tender  
with company seal.

Place :

LED Bulbs/ Tubelight.

Sl no	Item LED luminaries as per clause	Wattage & make/model	Rate per unit (inclusive of taxes) in Rupees.	
			In figures	In words
	10W LED bulb			
	18W LED Tubelight with fitting			

In case of any difference of amount in figures and words, the amount in words will be considered

Note : 1. The prices quoted above are complete in all respects as per technical specifications and inclusive of all central/state/local taxes and duties, packing,

forwarding, transit, insurance, loading and unloading, transportation and other charges etc.

2. Certified that rates quoted are as per specifications, terms and conditions mentioned in the bid document.

Date :

Signature of tender  
with company seal.

Place :

Signature.

Signature.