

MEGHALAYA NON-CONVENTIONAL AND RURAL ENERGY DEVELOPMENT AGENCY

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

TENDER DOCUMENT

1. WORK NO. : MNREDA/1408/2010/8
2. Name of Work : Supply, Installation and Commissioning
And Maintenance for 5 years of 3203 Nos.of
37 Wp and 147 Nos. of 74 Wp Home
Lighting System to be Installed in All
Aganwadi Centres in 7 Districts of
Meghalaya.
3. Date of Issue of Tender Document : The 27th Sept/ 2010 to 26th Oct/2010
4. Date of submission of Tender : The 29th October, 2010 at 12:00 Noon.
5. Date of Opening of Tender : The 29th October, 2010 at 1:00 P.M.
for Commercial Terms and Technical
Bid
6. Tender Issue to _____ against
application vide letter NO. _____ dated _____ against payment of Rs. 5,000/-
(Rupees Five thousand) only vide Demand Draft/Bankers
Cheque No./Cash _____
dated _____ of Bank towards cost of Tender Document (Non-
refundable)

PART – A

GENERAL TERMS AND CONDITIONS AND SCOPE OF WORK WITH TECHNICAL SPECIFICATION

(Page 1 to 18)

Issued by : _____
**FOR MEMBER SECRETARY CUM DIRECTOR,
MEGHALAYA NON CONVENTIONAL AND
RURAL ENERGY DEVELOPMENT AGENCY,
SHILLONG.**

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1. NOTICE INVITING TENDER

No.MNREDA/1408/2010/8 : Sealed Tender with 90 (ninety) days validity are hereby invited from any Authorized and approved MNRE manufacturer or Supplier for Supply, Installation and Commissioning, and maintenance for 5 years for 3203 Nos. of 37 Wp and 147 Nos. of 74 Wp Power Home Lighting System. The Tender Document will be issued with effect from 27th September, 2010 upto 26th October, 2010 on payment of Tender cost of an amount of Rs. 5,000/- (Rupees Five thousand) only (Non-refundable) Document can also be down loaded from the website but Tender cost has to be submitted before casting of Tender.

The System are to be Installed in All Aganwadi Centres in 7 Districts of Meghalaya. The work is of two parts bids. The submission of bids will be on or before 12:00 Noon of 29th October, 2010. The Commercial and Technical Bids will be opened on 29th October, 2010 at 1:00 P.M. and the Financial Bid opening of all those successful bidders on Commercial and Technical Bids will be intimate in due course.

Tenderers are advised to see themselves the qualification of this work. In case Tender are required in hard copy an additional amount of Rs. 200/- has to be submitted towards cost of Post or Courier. The Tender cost in the form of Cash/Bankers/Cheque or Draft are to be drawn in favour of "The Member Secretary Cum Director, MNREDA".

The undersigned reserved the right not to accept the lowest tenderers and may be reject any or all the tenderer without assigning any reasons whatsoever.

Sd/-
Director.

Copy to:

1. The Additional Chief Secretary
to the Govt. of Meghalaya,
Power Department.
2. Dr. G. Prasad,
Principal Scientific Officer,
Ministry of New and Renewable Energy,
Block No. 14, C.G.O. Complex,
Lodi Road, New Delhi-110003.
3. Shri Rajashi S. Choudhury,
Assistance Manager,
The Indian Express Ltd.,
23, Dr. S.K. Bhuyan Road,
Dighali Pukhuri (East),
Guwahati-781001
e.mail-express.ne@gmail.c } With a request to publish in one issue of
Financial Express All Editions Editions.
Mum/Del/Kol/Chen/Kochi/Bgl/Hyd/Pun/
Chd/Ahd(Guj)/Eng and to be submit a bill
in duplicate alongwith all sample of
advertisement of all editions for necessary
Payment.
4. The Directorate of Information &
Public Relation department,
Meghalaya, Shillong.
5. The State Informatic Officer,
National Informatic Centre,
Meghalaya, Shillong. } With a request to display the NIT on the
website enclosed herewith both hard copy
and soft copy.
6. Notice Board.

Sd/-
Director.

2. Instruction to Tenderer

2.1 Distribution of System – The Home Lighting System are to be installed in 3350 Nos. of Aganwadi Centres in 7 (seven) Districts in Meghalaya as detailed below:

Sl. No.	Name of District	Nos. C & RD Block	Rural Aganwadi Centres	Urban Aganwadi Centres
1.	East Khasi Hills	8	630	89
2.	West Khasi Hills	6	452	-
3.	Ri-Bhoi District	3	305	-
4.	Jaintia Hills District	5	449	-
5.	West Garo Hills	8	794	58
6.	East Garo Hills	5	395	-
7.	Souht Garo Hills	4	178	-
	Total:	39	3203	147

The list of sites Installation will be furnished to the successful bidder.

- 2.2 The Cost of Tender papers or document should be in the form of Cash/Bankers Cheque No/Demand Draft (Non-refundable) drawn in favour of Member Secretary, Meghalaya Non Conventional and Rural Energy Development Agency, Shillong.
- 2.2 Tender document will be issued by Courier or Speed Post on request but extra payment of Rs.200/-(Rupees two hundred) only should be made by Demand Draft towards cost of Speed Post or Courier.
- 2.4 Local dealer of any manufacturer or supplier will be issue Tender document but on furnishing of their dealership Certificate and Tender document will be issued in Principal's name.
- 2.5 In the event of postal delayed, MNREDA shall not be held responsible.
- 2.6 Tender document will be issued on any working days within the specified date
- 2.7 In case the opening date is declared as holiday Tender shall be open in the next working day at the same time and hour.
- 2.8 Tenderers can submit the Tender by down loading from the website but cost of Tender document has to be furnished before casting of Tender.

- 2.9 Tenderer are to furnish their offer in two seal cover envelope. 1st Envelope marked as “COMMERCIAL AND TECHNICAL BID” should enclosed along with. Part A of Tender documents issued in original. And 2nd envelope marked as “FINANCIAL BID” should contain Part-B of Tender issued in original.
- (a) “**Technical Bid**” should contain only design of plant offer as per Technical Specification or requirement of Sec. 4 and related paper to Technical support. The Test Report domestic home lighting system issued by any MNRE Authorization Test Centre issue after April, 2008 should be enclosed and attested by Authorized persons, VAT Registration, VAT Clearance Certificate upto 2009-2010, work experience or any other supporting paper.
- (b) “**Financial Bid**” should contain only EMD and the Price bid quoted on the tender document as supplied by the Agency or in a separate sheet but as per format supplied.
- 2.10 **Commercial Terms and Conditions** specifically indicating deviations to the terms and conditions stipulated in detailed tender papers including payment terms etc. must be clearly specify the deviation.
- 2.11 **Basis 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, failing to comply to the above will result in cancellation or rejection of the tender.
- 2.12 Any other particular information, which are required to be furnished as per detailed tender papers but which have not been specifically indicated.
- 2.13 The rate should be legible written in English both in figure and in words. In case of any dispute between the figure and words the letter shall be indicated.
- 2.14 Date of opening of Financial Bid shall be intimated individually to those firm who is qualified for Commercial and Technical offer.

2.15 The Price Bid/offer of all other who are not qualified for Technical Bid shall be returned unopened to such parties under acknowledgement. For other who qualify for Technical Bid due information shall be given through either **Phone or Fax**.

2.15.1 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.

3. **General/Commercial terms and Conditions:**

3.1 **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

3.2 **Attestation:** All xerox supporting papers which is not original should be duly attested by the Government official not below the rank of Magistrate.

3.3 **VAT:** VAT Registration and VAT Clearance Certificate upto March, 2010 should be furnished alongwith the Bid.

3.4 **Time of Completion:** The work should be completed within 120 days from the date of issue of final work order i.e. @ Supply of System to the respective site should be completed within 60 (sixty) days from the date of issue of final work order, (b) Installation and Commissioning of System should be completed within 60 days from the date of received of material at sites or designated Centre.

3.5 **Supplier:** The Supplier who are not the Module manufacturer are required to produce a letter from the manufacturer of Module for commitment of supplying the Module without which offer will be rejected.

- 3.6 **Trading License:** The successful bidder has to produce a Trading License from the proper authority before starting of work at sites.
- 3.7 **Agreement:** An Agreement has to be signed within 7 (seven) 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 Tender Document as issued alongwith the Bid as submitted by the bidders alongwith supporting papers shall be part and parcel of the agreement. The maintenance contract agreement shall be separately signed on completion of installation and commissioning work of the system.
- 3.8 **Division of Work:** The work may be allotted to more than one party so as to enable to complete the work within the set target date by the Government of India, MNRE.
- 3.9 **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.
- 3.10 **Test Report:** The Test Report issued by SEC/ERTL/CRPI/ETDC or any authorize Test Station Centre approved by the Government of India, MNRE for Home Lighting System Model-2 and for Home Lighting System Model-5 issued after April, 2008 should be submitted alongwith the Bid.
- 3.11 **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) of value as mobilization advance against a Bank Guarantee of equivalent /like amount from any Nationalized Bank or Scheduled valid for a period of 120(one hundred twenty) 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 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.

3.12 **Block Diagram and write-up of System:** The write-up in English about the System for both Model-2 and Model-5 should be submitted alongwith Block Diagram of Installation of the System.

3.13 **Experience:** The bidders are required to submit the detailed experience during the last 5 years of the work completed of the same system. A Statement in this respect has to be compiled in a comprehensive form alongwith work orders and completion Certificate. Due weightage will be given or considered to the bidders who have any experience especially in North Eastern Region and hilly areas.

3.14 **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 relieve the contractor from any obligation duty or responsibility under the contract.

3.15 **Price Quoted:** The price quoted as per the bidding Scheduled i.e. cost of the System, Transportation, Installation and Commissioning and maintenance contract should be realistic and practical in nature and conform to the actual work to be done. Any figure which is not practically practicable, offer will be rejected.

3.16 **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.

3.17 **Financial Soundness:** Documentary evidence in support of Financial Soundness of the Tenderer should be furnished.

3.18 **Submission of Bids:**

(a) **Commercial & Technical Bid should contain the following:**

(i) Tender paper (Part –‘A’) as issued by the Agency duly signed and sealed by the Authorized persons of the firm.

(ii) Test Report on Home System Model-2 & Model-5

- (iii) Technical Specification duly filled in as per Tender Document
- (iv) Experience in Similar kind of works.
- (v) VAT Registration and latests clearance Certificate upto March, 2010
- (vi) Any deviation with Justification thereof.
- (vii) Any other.

(b) **Financial Bid should contains:**

- (i) Tender Paper Part – ‘B’ as issued by the Agency duly signed and seal by the Authorized persons of the Firm.
- (ii) Price can be quoted on plain paper but it should be in the Format given.
- (iii) Earnest Money Deposit.

3.19 : **Service Centre-** It is mandatory that the Manufacturer or Supplier should have a local service centre in the state, and preference will be given to those Firm who have the service centre in all the 7(seven) Districts in the State.

3.20 : **Exemption of EMD-** The Manufacturer or Supplier who claim exemption shall have to produce a relevant paper from the proper authority.

3.21 : **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 the 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 the 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.

3.22 : 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 and drawings, correct delivery of materials, erection, testing and commissioning, within the guaranteed completion and warranty period of 5(five) years from the date of commissioning on completion of commissioning a separate agreement shall have to be signed in their respect for comprehensive maintenance contract.

3.23 : Tools and Tackles :

The contractor shall provide all tools and tackles 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.

3.24 : 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.

3.25 : Delivery of system :-

- (i) 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.

- (ii) 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.
- (iii) In case of any occurrence of loss or damage in transit upto destination, it shall be 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.

3.26: Arbitration :

- (i) Except where otherwise provided if at anytime 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.
- (ii) 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.
- (iii) 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.

3.27 : Court of Competent Jurisdiction :-

The Courts of Gauhati High Courts, Shillong Bench will only have jurisdiction in this case.

4. **Scope of work & Technical Specification:**

4.1 The Scope of work shall be included:

Supply, installation, testing and commissioning of SPV Home Lighting System of MNRE approved Model-2 and of Model-5 in 3350 Nos. of Aganwadi Centres in 7 Nos. of District in Meghalaya.

4.2 The Annual Maintenance Contract for all the system installed for 3(three) years after end of the 2(two) year warranty period.

4.3 **Specification for Domestic Home Lighting System :**

4.3.1 Type of System- Model-2 and Model-5 of MNRE approved Model for Home Lighting Systems.

4.3.2 **Solar PV Modules :**

- i) Solar Module shall consist of redundantly interconnected 36 Photovoltaic cell and the peak power 37 Wp under STC for Model-2 and 74 Wp for Model-5.
- ii) SPV Modules must be tested and certified by an independent testing laboratory that is accredited IEC/Equivalent BIS Standard IEC. 61215/IS 14286
- iii) Photo electrical conduction efficiency of SPV Modules should be greater than 12% Modules shall be made of high transitivity glass front surface giving high encapsulation gain and silicon rubber edge sealant for modules protection and mechanical support.
- iv) Modules shall perform satisfactorily in relative humidity upto 100% with temperature between 10^oc and 90^oc and to withstand a gust upto 200 Km/Hr. from back side of the modules. Modules shall be of crystalline type employing lamination technology using established polymer and toddler laminate.
- v) The rated power output of modules shall not vary more than 5% from the average power rating.

- vi) A minimum warranty of 10 years is available with degradation of power generated not exceeding 10% over the entire 10 years period.
- vii) The fill factor of modules shall not be less than 0.70
- viii) The module should be provided with a junction for provision of external screw terminal connection and with an arrangement for low voltage drop by bypass/blocking diode.
- ix) Data sheet should be furnished as follows :-

- (a) Module Type :-----
- (b) Module Dimension :-----
- (c) No.of cell & Wattange :-----
- (d) Solar cell manufacturer type:-----
- (e) Make of solar module :-----
- (f) Solar Module frame material:-----
- (g) Nominal voltage :-----
- (h) Operating voltage of solar Module :-----

- (i) Peak power current(Imp) at 50°c :-----

- (j) Open circuit voltage(Voc) at 50°c :-----

- (l) Short circuit (Ioc) at 50°c :-----

- (m) Maximum temperature rise of solar cell under severe working conditions over maximum ambient temperature. :-----
- (n) Filled Factor :-----
- (o) Operating temperature Conditions of modules :-----
- (p) Weight of each module :-----
- (q) Certification(Certificate should be enclosed) IEC 61215/IS 14286. Enclosed/not enclosed :-----
- (r) Unique Sr. No.& Model No. of Modules. :-----
- (s) Month & year of Manufacture :-----
- (t) I-V curve of Modules :Enclosed/not enclosed

(x) **Identification and Traceability**

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.

(xi) **Warranty :**

- (i) The mechanical structures, electrical works including power conditioners/inverters/charge controllers/maximum power point tracker units/distribution boards/digital meters/switchgear/storage batteries, etc. and overall workmanship of the SPV power plants/systems must be warranted against any manufacturing/design/installation defects for a minimum period of 5 years.
- (ii) PV modules used in solar power plants/systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

(xii) **Authorized testing laboratories/centers :**

- (i) 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, issued by the solar energy centre for small capacity modules upto 37 Wp capacity will also be valid.
- (ii) Test Certificates for the BOS items/components can be from any of the NABL/BIS accredited Testing Calibration Laboratories/MNRE approved test centers.

4.4 **Frame for Module**

- i) The structure of Modules shall be made of hot dip galvanized MS angle of size as per size of the Modules and embedded to G.I. Pipe of 2" size with 1 m long at a proper angle with nut and bolts system to fix to a roof top or pole. All nuts and bolts shall be made of very good quality stainless steel SS-304.
- ii) The structure shall be design to allow easy replacement of any modules.
- iii) All fastener shall be of stainless steel SS-304
- iv) Metallic frame structure with corrosion resistance paint to be fixed as indicated on (ii) above on the roof of the house to hold the SPV Module. The frame structure should have a provision to adjust its angle if inclination to the horizontal between 0-45°, so that it can be installed at the specific tilt angle

4.5 **Connection Wire/Cable:**

Necessary Cable/wire should be provided as per requirement from Module to charge controller and battery with minimum of 10m long. Size and make of cable should be specified clearly.

4.6 **Charge Controller/Electronics:**

- i) The inverter should be quasi sine wave/sine wave type with frequency in the range of 20 – 30 Khz. Half wave operation not acceptable.
- ii) The total electronic efficiency should be at least 80%
- iii) No blackening or reduction in the lumen output by more than 10% should be observed after 1000 ON/OFF Cycles (two minutes ON followed by four minutes OFF 1 – one cycle).
- iv) The ideal current consumption should not be more than 10 mA.
- v) Electronics should operate at 12 V and should have temperature compensation for proper charging of the battery through out the year.
- vi) Necessary lengths of wires/cables switches suitable for DC use and fuses should be provided.
- vii) Adequate protection is to be incorporated under No. load conditions i.e. when lamps are removed and the system is switch is switch ON.
- viii) The System should have protection against battery over charge and deep discharge conditions.

- ix) Fuses should be provided to protect against short circuit conditions.
- xi) Controller should also have a provision for Mobile charger.

4.7 **Lamps:**

- i) The Lamps will be of compact fluorescent (CFL) type either 4 pin/2 pin types with rating of 5 W/9W. For 4 – pin type CFL, a suitable preheating circuit must be provided.
- ii) The light output from lamps should be around 600+/-5% lumens for 9 Wp CFL and 900 +/- 5% lumen for 11 W CFL. No blackening or reduction in the lumen output by more than 10% should be observed after 1000 ON/OFF cycle (two minutes on followed by four minutes OFF in on cycle).
- i) The lamps should be housed in an assemble suitable for indoor use with a reflector on its back, while fixing assembly, the lamps should be held in a base up configuration.
- ii) The details specification, make of lamp should be furnished by the firm/supplier.

4.8 **Battery :**

- i) The battery will be of flooded electrolyte type, positive tubular plat low maintenance lead acid battery of Exide/equivalent make.
- ii) The battery will have a minimum rating of 12V of 40 Ah at C/10 discharge rate depending on model.
- iii) 75% of the rated capacity of the battery should be between fully charged and load cut off conditions.
- iv) A vented metallic box with acid proof corrosion paint for housing the storage battery indoors should be provided.

Specification details and write up on battery should be furnished.

4.9 : **Other features :**

- i) The system be provided with 2 LED indicators a green light to indicate charging in progress and a read LED to indicate deep discharge conditions of the battery. The green LED should glow only when the battery is actually being charged.

- ii) There will be a name plate on the system which will give:
 - a) Name of the manufacturer of Distinctive Logo.
 - b) Serial Number

- iii) Components and parts used in solar home systems should confirm to the latest BIS specifications, wherever such specifications are available and applicable.
 - i) The PV module(s) will be warranted for a minimum period of 10 years from the date of supply and the solar home system (including the battery) will be warranted for a period of two years from the date of supply.
 - v) The Warranty Card to be supplied with the System must contain the details of the System Supplied. The manufacturers can also provide additional information about the system and conditions of warranty as necessary
 - vi) An operation, instruction and maintenance manual in English should be provided with the Solar Home System. The following minimum details must be provided in the manual.
 - (a) About Photovoltaics
 - (b) About Solar Home System its components and expected performance.
 - (c) About PV Module
 - (d) About CFL
 - (e) About Battery
 - (f) Clear Instruction about mounting of PV Modules(s)
 - (g) About electronics
 - (h) About charging and significance of indicators
 - i) DO's and DON'T's
 - j) Clear instruction on regular maintenance and trouble shooting of Solar Home System.

4.10 **Technical Parameter:** The details Technical parameter for both Home Lighting System Model-2 and Model-5 should be furnished separately as per format given below:-

- (a) **Battery:**
 - i) Make :-----
 - ii) Type of Battery :-----
 - iii) AH Capacity :-----
 - iv) Efficiency :-----
 - v) Battery Rating :-----
 - vi) Separator Materials :-----
 - vii) Discharge rate :-----
 - viii) Battery Box Materials :-----
 - ix) Sl. No. & date :-----
 - x) Certification IEC 61427 enclosed : Enclosed/not enclosed.
- (b) **Duty Cycle:**
 - i) No. of light point :-----
 - ii) Average hour of operation per day :-----
 - iii) Sl. No. & date :-----
- (c) **Lamps:**
 - i) Make :-----
 - ii) Type of Lamp :-----
 - iii) Light Output :-----
- (d) **Electronics:**
 - i) Name of the Manufacturer :-----
 - ii) Model/Type No. :-----
 - iii) Idle current :-----
 - iv) Total electronics efficiency :-----
 - v) Operating Voltage of the Electronic circuit :-----
 - vi) Type inverter sine wave/quasi sine wave :-----
 - vii) Full protection against open circuit accidental short circuit :-----
And reverse polarity provided or not.:-----
- (e) **Mechanical:**
 - i) Type of frame structure :-----
 - ii) Provision to adjust of inclination for installation :-----
At the specified tilt angle. :-----
- (f) **Test Certificate of approved MNRE: No.-----**
Date :-----

Note : **Technical parameter as per 4.10 & 4.3.2 (ix) may be furnished in separate sheet for both Model-2 and Model-5.**

MEGHALAYA NON-CONVENTIONAL AND RURAL ENERGY DEVELOPMENT AGENCY

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Phone No.0364-2537343/2536138## Fax No.0364-2537611
E-Mail mnreda_shg @ bsnl.in ## Website www.mnreda.Gov.in

TENDER DOCUMENT

1. WORK NO. : MNREDA/1408/2010/8
2. Name of Work : Supply, Installation and Commissioning
And Maintenance for 5 years of 3203 Nos.of
37 Wp and 147 Nos. of 74 Wp Home
Lighting System to be Installed in All
Aganwadi Centres in 7 Districts of
Meghalaya.
3. Date of Issue of Tender Document : The 27th Sept/ 2010 to 26th Oct/2010
4. Date of submission of Tender : The 29th October, 2010 at 12:00 Noon.
5. Date of Opening of Tender : The 29th October, 2010 at 1:00 P.M.
for Commercial Terms and Technical
Bid
6. Tender Issue to _____ against
application vide letter NO. _____ dated _____ against payment of Rs. 5,000/-
(Rupees Five thousand) only vide Demand Draft/Bankers
Cheque No./Cash _____
dated _____ of Bank towards cost of Tender Document (Non-
refundable)

PART – B BIDDING SCHEDULED

(Page No. 19 - 21)

Issued by : _____
**FOR MEMBER SECRETARY CUM DIRECTOR,
MEGHALAYA NON CONVENTIONAL AND
RURAL ENERGY DEVELOPMENT AGENCY,
SHILLONG.**

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Sl. No.	Items	Page No.
1.	Notice Inviting Tender	- 1 - 2
2.	Instruction to Tenderer	- 3 - 5
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4.	Scope of work and Technical Specification	- 12 - 18
5.	Bidding Schedule	- 19 – 21

PART – B

5. BIDDING SCHEDULED:

Sl. No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
A	Cost of System				
I	Cost of SPV Domestic Home Lighting System of 37Wp,12V,40AH alongwith accessories as per Annexure-I	3203	No./System		
2.	Cost of SPV Home Lighting System of 74Wp, 12V, 75 AH as per Annexure - II	147	No./System		
	Total of (A)				
B.	Transportation				
	(a) Model - 2	3203	No./System	(a)	
	(b) Model - 5	147	No./System	(b)	
C.	Installation and Commissioning of System				
	(a) Model - 2		No./System	(a)	
	(b) Model – 5		No./System	(b)	
D.	CMC for 3 year	3350	No./System	(a)	
			No./System	(b)	
	Total:				

(Rupees _____) only

Note: Annexure-I & II price of System should be indicated without which Bidding Scheduled will be treated as incomplete.

Seal & Signed of Authorized
Person of the Firm

ANNEXURE-I.

5.1 DETAILS COST OF 37 Wp SOLAR HOME LIGHTING SYSTEM.

SL. No.	Description of item	Quantity	Unit	Rate/Unit (Rs.)	Amount (Rs.)
1.	Supplying of 37 Wp Solar Photovoltaic Module.	1	No.		
2.	Frame of module	1	No.		
3.	Switches	2	Nos.		
4.	Cables etc.	L.S.	No.		
5.	Charges controller/electronics	1	No.		
6.	Battery	1	No.		
7.	Battery box & battery rack	1	No.		
8.	Luminair & Fixture	2	Nos.		
	Total Ex-work cost of each system				

(Rupees-----
-----) only.

Seal & Signed of Authorized person
of the Firm

ANNEXURE-II.

5.1 DETAILS COST OF 74 Wp SOLAR HOME LIGHTING SYSTEM

SL. No.	Description of item	Quantity	Unit	Rate/Unit (Rs.)	Amount (Rs.)
1.	Supplying of 74 Wp Solar Photovoltaic Module.	1	No.		
2.	Frame of Module	1	No.		
3.	Switches	4	No.		
4.	Cables etc.	1	No.		
5.	Charges controller/electronics	1	No.		
6.	Battery	1	No.		
7.	Battery box & battery rack	1	No.		
8.	Luminair & fixture	4	No.		
	Total ex-work cost of system				

(Rupees-----
-----)only.

Seal & Signed of Authorized person
of the Firm