

**MEGHALAYA NON-CONVENTIONAL  
&  
RURAL ENERGY DEVELOPMENT AGENCY**

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

**TENDER DOCUMENTS**

1. Work No. : No MNREDA/1409/2010/324
2. Name of work : Design, Supply, installation, testing and commissioning of various capacity Solar Water Heating System (100 LPD to 2000 LPD capacity) in different Institutions in Meghalaya total Install capacity of 86,300 LPD.
3. Date of submission of Tender : The 7<sup>th</sup> Feb. 2011 : 13:00 Hours.
4. Date of opening of Tender : The 7<sup>th</sup> Feb 2011 at 14:00 Hours.  
for Commercial and Technical

Tender Issue to : M/s. \_\_\_\_\_  
\_\_\_\_\_ against application vide letter No. \_\_\_\_\_

Dated \_\_\_\_\_ against payment of Rs. 5000/- (Rupees five thousand)  
only vide Cash/B.C./Demand Draft No. \_\_\_\_\_ of Bank  
towards cost of Tender Document.

**PART – ‘A’  
COMMERCIAL TERMS & CONDITION AND  
TECHNICAL BID & SPECIFICATION  
(Page No. 1 to 14)**

*Issued By :*

For Member Secretary-cum-Director,  
Meghalaya Non-Conventional & Rural Energy  
Development Agency, Shillong

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# MEGHALAYA NON-CONVENTIONAL AND RURAL ENERGY DEVELOPMENT AGENCY

Near BSF Camp, Mawpat, Shillong – 793012  
Phone No. 0364-2537343, E-Mail : mnreda\_shg@bsnl.in ## www.mnreda.Gov.in

## 1. NOTICE INVITING TENDER

No. MNREDA/1371/2010/143 : Sealed Tender with 90 (ninety) days validity are invited from the Authorized and approved Manufacturers and Suppliers who has certification from the Test Centre recognized by the Govt. of India, MNRE and having experience to undertake the below mentioned work.

Sl. No.	Work Number	Name of Work	Cost of Tender Paper (Rs.)	Date of issue of tender Paper	Date of submission of tender	Date & Time of opening of commercial & Technical bid
1.	No. MNREDA/1371/2010/143	Electrification of 14 Nos. of remote village through SPV home lighting system with integration of SPV street lighting system.	Rs. 2,000.00	17.1.11 to 04.02.11	07.02.11 to 12.00 hours	07.02.11 at 13.00 hours for both commercial, Technical and Financial Bid.
2.	No. MNREDA/1409/2010/324	Design, supply, installation & commissioning of various capacity solar water heating system (100 LPD) to 2000 LPD) unit capacity in different Resort, Institution & individual in Meghalaya.	Rs. 5,000.00	17.01.11 to 04.02.11	07.02.11 Upto 13.00 hours	07.02.11 at 14.00 hours.
3.	No. MNREDA/1378/2009/2010/130	Design, supply, installation & commissioning of 170 Nos. of 3 Kw SPV power plant at different Institution in Meghalaya.	Rs. 10,000.00	17.01.11 to 04.02.11	07.02.11 Upto 14.00 hours.	07.02.11 at 15.00 hours.

Tender paper will be available with effect from the above mentioned dates on payment of the serialwise / workwise cost of tender papers by Demand Draft/Banker's Cheque/cash in favour of Member Secretary-cum-Director, Meghalaya Non-Conventional and Rural Energy Development Agency, Shillong. Offers can also be submitted by downloading of Tender papers/documents subjected to payment of cost of tender papers before casting of offer. In case of tender papers before

casting of offer. In case of opening date is declared as holidays, tender shall be opened in the next working day at the same time and hour.

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

Memo No. MNREDA/1371/2010/143(A)

Dated Shillong, the 6<sup>th</sup> January, 2011

- Copy to :-
1. The Additional Chief Secretary,  
to the Govt. of Meghalaya,  
Power Department.
  2. Shri Sudhir Mohan,  
Adviser,  
Minister of New & Renewable Energy  
Block No. 14, CGO Complex,  
Lodhi Road, New Delhi-110003.
  3. Dr. G. Prasad  
Director,  
Minister of New & Renewable Energy  
Block No. 14, CGO Complex,  
Lodhi Road, New Delhi-110003.
  4. Dr. Sant Ram,  
Director, (ST),  
Minister of New & Renewable Energy  
Block No. 14, CGO Complex,  
Lodhi Road, New Delhi-110003.
  5. The State Informatic Officer,  
National Informatics Centre  
Meghalaya, Shillong.
  6. Shri Rajashi S. Choudhury,  
Assistant Manager,  
The Indian Express Ltd.  
23, Dr. S. K. Bhuyan Road,  
Dighali Pukhuri (East)  
Guwhati-781001.  
E-Mail – express.ne@gmail.com
- } With a request display the NIT & Tender document on the website enclosed herewith both hard and soft copy.
- } With a request to publish in one issue of financial express all Edition. Editions Mumbai Delhi/Kolkata/Chennai/Kochi/Bangalore/Hyderabad/Pune/Chandigarh/Ahmedabad/Gujarat and to be submitted a bill in duplicate alongwith all sample of advertisement of all editions for necessary payment.

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

2. **INSTRUCTION TO TENDERER :**

- 2.1 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.
- 2.3 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.
- 2.4 In the event of postal delayed, MNREDA shall not be held responsible.
- 2.5 Tender document will be issued on any working days within the specified date.
- 2.6 In case the opening date is declared as holiday. Tender shall be open in the next working day at the same time and hour.
- 2.7 Tenderers can submit the Tender by down loading form the website but cost of Tender document has to be furnished before casting of Tender.
- 2.8 Tenderer are to furnish their offer in two seal cover envelope. 1<sup>st</sup> Envelope marked as "COOMERCIAL AND TECHNICAL BID" should enclosed along with Part A of Tender documents issued in original. And 2<sup>nd</sup> envelope marked as "FINANCIAL BID" should contain Part - B of Tender issued in original.
- (a) **"Commercial & Technical Bid"** should contain only design of different capacity system offer as per Technical Specification or requirement and related paper to Technical support, Test Report of Collector, Clearance Certificate during last two Financial Year, 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.
- 2.9 **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.
- 2.10 **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.

- 2.11 Any other particular information, which are required to be furnished as per detailed tender papers but which have not been specifically indicated.
- 2.12 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.
- 2.13 Date of opening of Financial Bid shall be intimated individually to those firm who is qualified for Commercial and Technical offer.
- 2.14 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 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 during last Two Financial year upto March 2010 should be furnished alongwith the Bid.
- 3.4 **Time of Completion :** The work should be completed within 180 (one hundred and eighty) days from the date of issue of final work order i.e. @ Supply of equipments to the respective site should be completed within 90 (ninety) days from the date of issue of final work order, (b) Installation and Commissioning of the Power Plant should be completed within 90(ninety) days from the date of received of material at sites or designated Centre.
- 3.5 **Trading License :** The successful bidder has to produce a Trading License from the proper authority before starting of work at sites.

- 3.6 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.
- 3.7 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.
- 3.8 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.
- 3.9 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 9two) 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 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> 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 form the contractor from his/its assets/amount submitted as mobilization advance.
- 3.10 Experience :** The bidders are required to submit the detailed experience during the last 5 years of the work completed in any capacity. A Statement in this respect has to

be compiled in a comprehensive form alongwith work orders by furnished column format consisting of Sl. No., work order, Name of Organisation, No. of Systems, Work Value, Status as to date 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.

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

**3.12 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.

**3.13 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.

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

**3.15 Submission of Bids :**

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

(i) Tender paper (Part - 'A') as issued by the Agency duly signed and seal by the Authorized persons of the firm.

(ii) Technical Design and Specification of different capacity of system.

(iii) Technical Specification duly filled in as per Tender Document.

(iv) Experience in Similar kind of works.



- (v) VAT Registration and clearance Certificate during the last two financial years 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.

**3.16 Service Centre -** It is mandatory that the Manufacturer of 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.

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

**3.18 Breach/cancellation of the contract :-**

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

**3.19 Responsibility of the contractor :**

The contractor shall guarantee and be entirely responsible for the execution of the contract in accordance with the specification, schedules and appendices. He shall further guarantee and be responsible for the quality and workmanship of all materials and completed works, correct designs drawings, correct delivery of materials, erection, testing and commissioning, within the 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.

**3.20 Tools and Tackles :**

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

**3.21 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.

**3.22 Delivery of system :-**

- (i) The contractor shall deliver the 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 systems and equipments.
- (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 or initiate or pursue the claim with Insurance Company. He should take immediate steps to repair the damaged apparatus or replacement thereto. Any extension of time limit required in such contingency will be considered by the purchaser on merit.

**3.23 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.

**3.24 Court of Competent Jurisdiction :**

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

4. **LIST OF INSTITUTIONS :**

Sl. No.	Name of Institution	Capacity LPD
1	2	3
<b>A</b>	<b>Institution, Hostel, Hospital, Para Military</b>	
1.	Lyngkien Sustainable Development Group	200
2.	K.J.P. Assembly orphanage Boy's Home	4000
3.	S. Fernando sec. School Sawsymper, Mawphlang	600
4.	Prakash Hotel, Laitumkhrah, Shillong	500
5.	B.S.F. Campus, Rynjah, Shillong	1000
6.	Commandant HQ-24 Mountain Brigade Camp, Umroi-Cantt.	1500
7.	Woodland Institute of Nursing Laitkor, Upper Shillong	8000
8.	Monfort Centre for Education Danakgre, Tura, West Garo Hills	7500
9.	Sports Authority of India Training Centre, J. N. Stadium, Polo Ground, Shillong, East Khasi Hills	5000
10.	K.J.P. Higher Sec. School, Mission Compound, Shillong.	7700
11.	Ferrando Convent Mawjron	5000
12.	Dr. H. Gordon Robert Hospital, Jaiaw Langsning	16300
13.	Institute of Hotel Management Bishop Cotton Road, Shillong	2400
14.	HQ. 83 BN B.S.F. Nongmysong, Shillong, E/Khasi Hills	2000
15.	Bani Hostel, Malki-Nongshillong, E/Khasi Hills	1000
16.	Holy Cross Hospital, Tura Dakopgre, West Garo Hills	500
17.	Bakdil Training Centre, Tura Lower Chandmari, West Garo Hills	500
18.	Bansara Eye Care Hospital, Laitumukhrah, Shillong	200
19.	Shanbangla Resort Shangbangla, Umling, Ri-Bhoi	500
20.	Bethany Hospital, Nongrim Hills, Shillong, E/Khasi Hills	7000
21.	B.S.F. HQ. Umpling, Shillong	1000
22.	Central Agricultural University, Umiam	2000
23.	Orien Theological College, Mawlai, Shillong	2000
24.	Kheitmon Memorial School, Mawngap Mawsmi Mawngap	200
25.	Mawphlang P.H.C. Mawphlang	200
26.	Children's and Youth Evangelistic Association P.H.C. Lad Kharong	200
27.	B.S.F. Campus Danakgre, Tura	500
28.	Gilead Bethal School, Nongdaneng, Laitkor	200
29.	Gilead Health Centre	100
30.	Barisha Hostel, Lumsophoh, Laitumkhrah	500
31.	R. O. Wahlang Hostel, Dongsharum, Umpling	600
32.	Seven Set School, Malki, Shillong	1000
33.	St. George Sec. School, Nongmysong, Shillong	400

<b>B</b>	<b>Individual Beneficiaries</b>	
1.	K. L. Tariang, Risa Colony, Shillong	100
2.	Nathaniel Ranee, Kyrdimkhla, Laitlyngkot	300
3.	Krishno Rani Lyngdoh, Laitlyngkot	300
4.	Donald Ingty, Lower Laichumari, Shillong	100
5.	Henry Lamin, Madanryting, Shillong	200
6.	Catherine Mervyl Nongrum, Umsaw Khwan	200
7.	Shamin Chistie - Motinagar - Shillong.	100
8.	Smt. P. P. Pyrtuh, Nongthymmai, Shillong	100
9.	Shri Bakul Bala Saha, Barengapara, Dalu, W/Garo Hills	200
10.	Md. Habib Mirullah Bldg., G. S. Road, Shillong, E/Khasi Hills	100
11.	Shri Omingehel K. Dewesaw, Mawkawah Nongstoin, W/Khasi Hills	100
12.	Smt. Monica Thabah, Nongdom Pariong, Mawthadraishan, W/Khasi Hills	100
13.	Shri A. Nongrum, Mairang, West Khasi Hills	100
14.	Shri Tripsibon Khyriem, Mawkarshiing, Mawngap, Mawphlang, E/Khasi Hills,	100
15.	Hanamon Khyriem, Mawngap-Rim, Mawngap, Mawphlang, E/Khasi Hills	100
16.	Myself Rymbai Mawkarshiing, Mawngap, Mawphlang, E/Khasi Hills	100
17.	W. Synrem, Mawlai, Shillong E/Khasi Hills	200
18.	Smt B. Kurbah, Mawngap Rim Mawngap, Mawphlang, E/Khasi Hills	100
19.	Shri Salman N. Sangma, Amingokre Village, Dadenggre, W/Garo Hills	200
20.	Smt. Aritha A. Sangma, Lowel Danakgre, Tura, W/Garo Hills	100
21.	Smt. Prillanti Marak, Kusumkolgre, Williamnagar, East Garo Hills	100
22.	Shri Salwan Marak, Kusumkolgre, Willimanagar, East Garo Hills	100
23.	Shri Bhabok Kharkongor, Madan Laban, Shillong, E/Khasi Hills	100
24.	Shri Kliners Kharbangar, Mawlai, Shillong	100
25.	Shri I. Haukhanpaua, Dum Dum, Nongthymmai, Shillong, E/Khasi Hills	100
26.	Shri Harnti Milian Syiem, 5 <sup>th</sup> Mile, Upper Shillong, Shillong, E/Khasi Hills	300
27.	M. D. Tamar Dhanketi, Shillong	100
28.	J. Marbaninag, Jaiaw	100

29.	Smt. P. Pyrkot, Laitumkhrah	100
30.	Mr. Anthony Pariat, Pohkseh	100
31.	M.L. Blah Jaiaw, Langsning	100
32.	Eddie Thabah, Mawlai, Nongkwar	100
33.	S.G. Kharshing, Commandant, 1 <sup>st</sup> MLP Bn., Mawiong	100
34.	R. D. Laloo, Lachumiere, Shillong	100
35.	R. Rajesh Dohtdon, Mawlai, Phudmawri	100
36.	Dr. A. Shylla, Madanritting	100
37.	Dr. Ricky A. Syngkon, Polhkseh, Shillong	100
38.	Emon Trengngap, Lower Nongrah, Lailad	100
39.	H. C. Khan, Umpling	100
40.	Edrian Marbaninag, Rija Colony, Shillong	100
41.	Dr. Andreas Dkhar, Pohkseh, Shillong	100
42.	Pynshai N. Syiem, Smit	100
43.	K. K. Khyriem, Malki, Shillong	100
44.	Karl Rodborne, Nongkseh	100
45.	Rebecca Suchiang, New Kench's Trace, Shillong	100
46.	Dr. A. K. Das (D.H.S.) Barik	100
47.	Eswall Slong, Arburthnot Rd. Nongrimmaw, Laithumkhrah, Shillong	100
48.	Mr. Mohan Sing Bareh, Nongthymmai, Shillong	100
	<b>TOTAL</b>	<b>6000</b>
	<b>GRAND TOTAL (A) + (B)</b>	<b>86,300</b>

**5. SCOPE OF WORK :**

- i) The Solar Plate collector should be of flat plate collector.
- ii) The Solar collector along with Hot water tank are to be installed in an RCC Building in 33 (thirty three) Nos. of Institutions of total capacity of 80,300 LPD and for 48 Nos. of Private/Individual users Building.
- iii) Work order will be issued separately for each Institution once they deposit their contribution towards cost of the system.

iv) **Solar Collector Area Design :**

The requirement of space for installation of solar collector are to be provided along with the details drawing and design separately for all units of system at each Institution without which tender will be rejected.

v) **Internal Piping :**

The requirement of cold water pipe and hot water pipe along with accessories required for average quantity quoted for price of the system should be specified and the details size of pipe and accessories were the excess quantity from the average estimation should be furnished clearly and individually for each system. While quoting the tender, details piping with size for each system and along with accessories should be forwarded separately along with unit price.

**6. Technical Specification :**

- 6.1 Specification of Capacity 100, 200, 300, 400, 500, 600, 700, 1000, 1500 and 2000 LPD Unit Capacity should be furnished below as per Technical Specification required:-

1.	System Capacity
2.	System output temperature
3.	Type & made of solar collector
4.	No. of collectors
5.	Application

6.	Circulation
7.	Electrical back up
8.	Tank type & made
9.	Sacrificial Anode
10.	Internal piping
11.	Angle wheel valve
12.	Temperature gauge
13.	Water meter
14.	Float chamber
15.	Tank and collector stand
16.	Collector painting
17.	Operating & maintenance manual
18.	Permissible total hardness of water
19.	Hot water & cold water piping
20.	Make
21.	Tank weight
22.	Collector weight
23.	Space required
24.	Pipe line of cold water and hot water average estimation
25.	Any other details

- (a) Technical Specification as per Format above should be furnished for each system capacity.
- (b) The details structure drawing for each capacity for each Institution should be furnished along with write up on the system.

#### 6.2 **Manual Write Up :**

Each Individual capacity as per 6.1 above should be furnished separately for all type of unit capacity system.

- 6.3 The Solar Collector Test Certification should be furnished for the system supply and water Tank should be of ISI marking and certification.



**MEGHALAYA NON-CONVENTIONAL  
&  
RURAL ENERGY DEVELOPMENT AGENCY**

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

**TENDER DOCUMENTS**

1. Work No. : No MNREDA/1409/2010/324
2. Name of work : Design, Supply, installation, testing and commissioning of various capacity Solar Water Heating System (100 LPD to 2000 LPD capacity) in different Institutions in Meghalaya total Install capacity of 86,300 LPD.
3. Date of submission of Tender : The 7<sup>th</sup> Feb. 2011 : 13:00 Hours.
4. Date of opening of Tender : The 7<sup>th</sup> Feb 2011 at 14:00 Hours.  
for Commercial and Technical

Tender Issue to : M/s. \_\_\_\_\_  
\_\_\_\_\_ against application vide letter No. \_\_\_\_\_

Dated \_\_\_\_\_ against payment of Rs. 5000/- (Rupees five thousand)  
only vide Cash/B.C./Demand Draft No. \_\_\_\_\_ of Bank  
towards cost of Tender Document.

**PART – ‘B’  
COMMERCIAL TERMS & CONDITION AND  
TECHNICAL BID & SPECIFICATION  
(Page No. 15 to 23)**

*Issued By :*

For Member Secretary-cum-Director,  
Meghalaya Non-Conventional & Rural Energy  
Development Agency, Shillong

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7. **Bidding scheduled :**

7.1 **Capacity unit Price :**

Sl. No.	Description of Items	Unit	Quantity	Unit per system (Rs.)	Amount (Rs.)
1	2	3	4	5	6
<b>A</b>	<b>100 LPD :</b>				
(i)	Design, manufacture supply of 100 LPD solar water heating system for Individual user.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system.	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (A)</b>				
<b>B.</b>	<b>200 LPD :-</b>				
i)	Design, manufacturer supply of 200 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (B)</b>				
<b>C.</b>	<b>300 LPD :-</b>				
i)	Design, manufacturer supply of 300 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (C)</b>				

<b>D.</b>	<b>400 LPD :-</b>				
i)	Design, manufacturer supply of 400 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (D)</b>				
<b>E.</b>	<b>500 LPD :-</b>				
i)	Design, manufacturer supply of 500 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (E)</b>				
<b>F.</b>	<b>600 LPD :-</b>				
i)	Design, manufacturer supply of 600 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (F)</b>				
<b>G.</b>	<b>700 LPD :-</b>				
i)	Design, manufacturer supply of 700 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (G)</b>				

<b>H.</b>	<b>1000 LPD :-</b>				
i)	Design, manufacturer supply of 1000 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (H)</b>				
<b>I.</b>	<b>1000 LPD :-</b>				
i)	Design, manufacturer supply of 1000 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (I)</b>				
<b>J.</b>	<b>1500 LPD :-</b>				
i)	Design, manufacturer supply of 1500 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (J)</b>				
<b>K.</b>	<b>2000 LPD :-</b>				
i)	Design, manufacturer supply of 2000 LPD solar water heating system as required.	Nos. of system			
(ii)	Average cold & hot water piping with accessories supplied with system	L.S.			
(iii)	Super structure work for collector	L.S.			
(iv)	Installation & commissioning	L.S.			
(v)	Annual Maintenance Contract	L.S.	3 Years		
	<b>TOTAL (K)</b>				

**Signature & Seal of  
Authorized person**

7.2 **SYSTEMS/INSTITUTION PRICE QUOTED :**

Sl. No.	Name of Institutions & Users	System/ Capacity	Ex-work Cost of Equipments				Transportation & Transit Insurance	Installation & Commi- ssioning	AMC for 3 years after 2 years Warranty	Total Amount quoted (7 + 8 + 9 + 10)
			Equipments Cost	Structural Cost of Tank & Collector	Taxes & Duties	Total Ex- Work Cost				
1	2	3	4	5	6	7	8	9	10	11
A	<b>Institution, Hostel, Hospital, Para Military</b>									
1.	Lyngkien Sustainable Development Group	200								
2.	K.J.P. Assembly orphanage Boy's Home	4000								
3.	S. Fernando sec. School Sawsymper, Mawphlang	600								
4.	Prakash Hotel, Laitumkhrah, Shillong	500								
5.	B.S.F. Campus, Rynjah, Shillong	1000								
6.	Commandant HQ-24 Mountain Brigade Camp, Umroi-Cantt.	1500								
7.	Woodland Institute of Nursing Laitkor, Upper Shillong	8000								
8.	Monfort Centre for Education Danakgre, Tura, West Garo Hills	7500								
9.	Sports Authority of India Training Centre, J. N. Stadium, Polo Ground, Shillong, East Khasi Hills	5000								
10.	K.J.P. Higher Sec. School, Mission Compound, Shillong.	7700								
11.	Ferrando Convent Mawjron	5000								
12.	Dr. H. Gordon Robert Hospital, Jaiaw Langsning	16300								
13.	Institute of Hotel Management Bishop Cotton Road, Shillong	2400								

1	2	3	4	5	6	7	8	9	10	11
14.	HQ. 83 BN B.S.F. Nongmynsong, Shillong, E/Khasi Hills	2000								
15.	Bani Hostel, Malki-Nongshillong, E/Khasi Hills	1000								
16.	Holy Cross Hospital, Tura Dakopgre, West Garo Hills	500								
17.	Bakdil Training Centre, Tura Lower Chandmari, West Garo Hills	500								
18.	Bansara Eye Care Hospital, Laitumukhrah, Shillong	200								
19.	Shanbangla Resort Shangbangla, Umling, Ri-Bhoi	500								
20.	Bethany Hospital, Nongrim Hills, Shillong, E/Khasi Hills	7000								
21.	B.S.F. HQ. Umpling, Shillong	1000								
22.	Central Agricultural University, Umiam	2000								
23.	Orien Theological College, Mawlai, Shillong	2000								
24.	Kheitmon Memorial School, Mawngap Mawsmmai Mawngap	200								
25.	Mawphlang P.H.C. Mawphlang	200								
26.	Children's and Youth Evangelistic Association P.H.C. Lad Kharong	200								
27.	B.S.F. Campus Danakgre, Tura	500								
28.	Gilead Bethal School, Nongdaneng, Laitkor	200								
29.	Gilead Health Centre	100								
30.	Barisha Hostel, Lumsophoh, Laitumkhrah	500								
31.	R. O. Wahlang Hostel, Dongsharum, Umpling	600								

1	2	3	4	5	6	7	8	9	10	11
32.	Seven Set School, Malki, Shillong	1000								
33.	St. George Sec. School, Nongmynsong, Shillong	400								
	<b>Grand Total (A)</b>									
<b>B</b>	<b>Individual Beneficiaries</b>									
1.	K. L. Tariang, Risa Colony, Shillong	100								
2.	Nathaniel Ranee, Kyrdimkhla, Laitlyngkot	300								
3.	Krishno Rani Lyngdoh, Laitlyngkot	300								
4.	Donald Ingty, Lower Laichumari, Shillong	100								
5.	Henry Lamin, Madanryting, Shillong	200								
6.	Catherine Mervyl Nongrum, Umsaw Khwan	200								
7.	Shamin Chistie - Motinagar - Shillong.	100								
8.	Smt. P. P. Pyrtuh, Nongthymmai, Shillong	100								
9.	Shri Bakul Bala Saha, Barengapara, Dalu, W/Garo Hills	200								
10.	Md. Habib Mirullah Bldg., G. S. Road, Shillong, E/Khasi Hills	100								
11.	Shri Omingehel K. Dewasaw, Mawkawah Nongstoin, W/Khasi Hills	100								
12.	Smt. Monica Thabah, Nongdom Pariong, Mawthadraishan, W/Khasi Hills	100								
13.	Shri A. Nongrum, Mairang, West Khasi Hills	100								



1	2	3	4	5	6	7	8	9	10	11
14.	Shri Tripsibon Khyriem, Mawkharshiing, Mawngap, Mawphlang, E/Khasi Hills,	100								
15.	Hanamon Khyriem, Mawngap-Rim, Mawngap, Mawphlang, E/Khasi Hills	100								
16.	Myself Rymbai Mawkharshiing, Mawngap, Mawphlang, E/Khasi Hills	100								
17.	W. Synrem, Mawlai, Shillong E/Khasi Hills	200								
18.	Smt B. Kurbah, Mawngap Rim Mawngap, Mawphlang, E/Khasi Hills	100								
19.	Shri Salman N. Sangma, Amingokre Village, Dadenggre, W/Garo Hills	200								
20.	Smt. Aritha A. Sangma, Lowel Danakgre, Tura, W/Garo Hills	100								
21.	Smt. Prillanti Marak, Kusumkolgre, Williamnagar, East Garo Hills	100								
22.	Shri Salwan Marak, Kusumkolgre, Willimanagar, East Garo Hills	100								
23.	Shri Bhabok Kharkongor, Madan Laban, Shillong, E/Khasi Hills	100								
24.	Shri Kliners Kharbangar, Mawlai, Shillong	100								
25.	Shri I. Haukhanpaua, Dum Dum, Nongthymai, Shillong, E/Khasi Hills	100								
26.	Shri Harnti Milian Syiem, 5 <sup>th</sup> Mile, Upper Shillong, Shillong, E/Khasi Hills	300								

1	2	3	4	5	6	7	8	9	10	11
27.	M. D. Tamar Dhanketi, Shillong	100								
28.	J. Marbaninag, Jaiaw	100								
29.	Smt. P. Pyrkot, Laitumkhrah	100								
30.	Mr. Anthony Pariat, Pohkseh	100								
31.	M.L. Blah Jaiaw, Langsning	100								
32.	Eddie Thabah, Mawlai, Nongkwar	100								
33.	S.G. Kharshing, Commandant, 1 <sup>st</sup> MLP Bn., Mawiong	100								
34.	R. D. Laloo, Lachumiere, Shillong	100								
35.	R. Rajesh Dohtdon, Mawlai, Phudmawri	100								
36.	Dr. A. Shylla, Madanritting	100								
37.	Dr. Ricky A. Syngkon, Polhkseh, Shillong	100								
38.	Emon Trengngap, Lower Nongrah, Lailad	100								
39.	H. C. Khan, Umpling	100								
40.	Edrian Marbaninag, Rija Colony, Shillong	100								
41.	Dr. Andreas Dkhar, Pohkseh, Shillong	100								
42.	Pynshai N. Syiem, Smit	100								
43.	K. K. Khyriem, Malki, Shillong	100								
44.	Karl Rodborne, Nongkseh	100								
45.	Rebecca Suchiang, New Kench's Trace, Shillong	100								
46.	Dr. A. K. Das (D.H.S.) Barik	100								

1	2	3	4	5	6	7	8	9	10	11
47.	Eswall Slong, Arburthnot Rd. Nongrimmaw, Laithumkrah, Shillong	100								
48.	Mr. Mohan Sing Bareh, Nongthymmai, Shillong	100								
	<b>TOTAL</b>	<b>6000</b>								
	<b>GRAND TOTAL (A) + (B)</b>									

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

**Seal & Signature of Authorised  
Person of the Firm**