

MEGHALAYA NON-CONVENTIONAL AND RURAL ENERGY DEVELOPMENT AGENCY

Near B.S.F. Camp, Mawpat, P.O. Mawpat, Shillong – 793 012

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

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

SHORT TENDER NOTICE

for

Off Grid Solar Power Plants

At different locations in the State of

Meghalaya

For the Financial Year 2015-16

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NIT No.: MNREDA/1641/2015/68

Date Shillong, the 29th October,2015.

Tender document issued to M/S _____

against application vide letter No. _____

dated _____ and payment of Rs. 5,000.00 (Rupees Five thousand) only by
Cash/Bank Draft No. _____ dated _____ of

_____ Bank towards the cost of Tender

Document (Part – A and Part – B), Category _____.

Issued By:

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

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PART – A

Commercial & Technical Bid

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SHORT TENDER NOTICE

NIT No. MNREDA/1641/2015/68

Dated Shillong, the 29th October,2015.

Sealed tenders are invited from eligible registered Indian Manufacturers (manufacturers mean manufacturers of SPV modules or battery or (PCU) or MNRE Channel Partners for the design, supply, installation, testing and commissioning of off-grid 3 Kw each solar power plants (Category-I) as per MNRE specifications, with two years warranty and three years mandatory comprehensive maintenance contract (CMC) at various locations in the State of Meghalaya.

Tender documents will be issued during working days from 29.10.2015 to 9.11.2015 in the office of the undersigned on payment of Rs. 5,000.00 (Rupees five thousand) only or can be downloaded from website of MNREDA. Separate Tender cost for each category shall be paid as per tender schedule by way of cash or bank draft only. Bank Draft should be drawn in favor of Member Secretary cum Director, MNREDA, Shillong. Tender documents shall be received in the office of the undersigned up to 9.11.2015 at 12.00 PM and shall be opened in the same place and date at 3.30 PM.

The undersigned reserves the right to cancel the tender and/or reject any or all the bids without assigning any reason thereof.

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

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SHORT TENDER NOTICE

NIT No. MNREDA/1641/2015/68

Dated Shillong, the 29th October, 2015.

Category – I

Name of Work: (3 Kw for each Police Station).

Design, Supply, Installation, Testing and Commissioning with Two Years Warranty and Three years Mandatory Comprehensive Maintenance Contract (CMC) of Off Grid Solar Power Plant at the following Police Stations in the State of Meghalaya.

Solar Power Plant Capacity	Estimated Amount (Rs. in lakhs)	Bid Security (Rs. in lakhs)	Date & Time of Submission	Date & Time of Opening
3kWp at the following locations: 1. Ranikor Police Station, South West Khasi Hills. 2. Dawki Police Station, West Jaintia Hills. 3. Saipung Police Station, East Jaintia Hills. 4. Songsak Police Station, South Garo Hills. 5. Chokpot Police Station, South Garo Hills. 6. Rongara Police Station, South Garo Hills. 7. Shella Police Station, East Khasi Hills. 8. Dadenggre Police Station, West Garo Hills.	50.40	1.01	9.11.2015 AT 12 noon	9.11.2015 At 3.30 P.M.

Member Secretary cum Director
Meghalaya Non-Conventional & Rural
Energy Development Agency.

NIT No. MNREDA/1641/2015/68-A

Dated Shillong, the 29th October,2015.

Copy to :-

1. The State Informatic Officer,
National Informatics Centre
Meghalaya, Shillong.

With a request to display the NIT &
Tender Document on the website.
Both hard & soft copy of Tender Document
enclosed herewith.

2. M/s. Eastern Chronicle
Shillong.

With a request to publish in one issue
of your newspaper and to be submitted
the bill in duplicate along with sample of
Advertisement for necessary payment.

3. Notice Board.
MNREDA, Shillong.

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

INSTRUCTIONS TO BIDDERS

1. Minimum Qualifying Criteria for Bidding:

1.1 The bidder must have the following minimum criteria to qualify for bidding:

- (i) The bidder should be registered with the Ministry of New and Renewable Energy (MNRE).
- (ii) The bidder should be a registered Indian company / Firm / Joint Venture / MNRE Channel Partner/ Individual registered as manufacturer of Solar Module or Battery or PCU.
- (iii) The bidder should have their products approved by MNRE/ IEC as per specification of MNRE.
- (iv) The bidder should have an average annual turnover of **Rs. Three Crores** in the last three years. Certified audited balance sheets for the last three years should be submitted.
- (v) The bidder should have cumulative experience of having executed projects equal to the bid capacity in the category. Certified work orders and satisfactory performance reports from project owners should be submitted.
- (vi) The bidder must have adequate service network for maintenance of the system in North Eastern Region. Details to be furnished.
- (vii) The bidder must have VAT registration certificate valid at least up to 31/03/2016.

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

2. Tender Document

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

3. Cost of Tender Document

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

3.2 Bidders may also download the bid document from MNREDA website and submit the cost of the bid document as indicated at 3.1 above in the form of Demand Draft along with Commercial & Technical Bid (Part – A).

Non-submission of cost of Tender document shall result in summary rejection of bid.

4. Bid Security

- 4.1 Bid Security as indicated in the NIT Schedule in the form of Bank Guarantee/Call Deposit/FDR from any scheduled or nationalized bank of India pledged in favour of Member Secretary cum Director, MNREDA, Shillong should be furnished without which tenders will be summarily rejected.
- 4.2 The bidders who claim exemption shall have to produce relevant papers from the proper authority i.e. NSIC certificate etc.
- 4.3 Bid security shall be returned to the bidders after issue of final work orders.

5. Submission of Bid

The bid should be submitted latest by the date and time indicated in the NIT Schedule. The bid should be submitted in 2 (two) parts i.e. Commercial & Technical Bid and Financial Bid.

5.1 Commercial & Technical Bid: consisting of the following documents:-

- i. Tender Paper (Part – “A”) duly signed and sealed by the 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. Any other documents as mentioned in this tender document.

5.2 Financial Bid: consisting of the following documents:-

- i. Tender Paper (Part – “B”) duly signed and sealed by the Authorized person/s of the firm.
- ii. Price Bid - can be quoted on plain paper but it should be in the format given.
- iii. Contract Performance Guarantee @ 10% of the bid amount quoted in the form of Bank Guarantee/Call Deposit/FDR. The Contract Performance Guarantee should be valid for a period of one year initially and may be extended if required.

5.3 Commercial & Technical Bid should be sealed in a separate envelope, hereinafter referred to as **First Envelope**, marked as “Commercial & Technical Bid for Category No._____”.

5.4 Commercial & Technical Bid should not contain price of any items otherwise the bid shall be disqualified.

5.5 Financial Bid should be sealed in a separate envelope, hereinafter referred to as **Second Envelope**, marked as “Financial Bid for Category No._____”.

5.6 Financial Bid should not contain any technical matter or other matter except price bid and Contract Performance Guarantee. The date of opening of the price bid will be notified to qualified bidders after Commercial & Technical bid evaluation.

5.7 First Envelope and Second Envelope should be sealed in a third envelope marked as “SPV Power Plant for Category No._____”, NIT No., Date of opening of tender, Name & Address of the bidding firm and should be addressed to Director, Meghalaya Non-Conventional And Rural Energy Development Agency, Near B.S.F. Camp, Mawpat, P.O. Mawpat, Shillong – 793 012.

6. Opening and Evaluation of Tender

- 6.1 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 and bid security are found to be in order, then the Technical & Commercial bid document shall be accepted and kept for evaluation. Otherwise, the tender document shall stand rejected and shall be returned to the bidder.
- 6.2 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.
- 6.3 If the bid document is not qualified as per the qualifying criteria, it shall be treated as nonresponsive and the Technical & Commercial bid shall not be evaluated and shall be returned to the bidder.
- 6.4 Only the bidders whose Technical & Commercial bids are responsive shall be eligible for opening of the financial bids.

7. Opening of Financial Bid

Date of opening of Financial Bid shall be intimated individually to those bidders who have qualified in the Technical & Commercial offer.

- 7.1 Financial bids without the Contract Performance Guarantees shall be considered non-responsive and shall be rejected.
- 7.2 The price quoted should be firm and valid for 6 (six) months from the date of opening of the price bids. 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.
- 7.3 The rate should be written in English, both in figures and in words. In case of any differences between the prices mentioned in figures and words, the prices mentioned in words shall be considered final. Also, in case of any arithmetical error in regard to the total amount and individual rates, the individual rates shall be taken as final and the total amount shall be calculated accordingly.

8. Award of Contract

The Contract shall be awarded to the lowest (L1) bidder and the bidder shall inform acceptance of the award within 7 (seven) days from the date of issue of the work order failing which the work shall be offered to the next lowest bidder at the L1 rate.

9. Additional Information

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

10. Deviation

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

11. Attestation

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

12. Other Terms & Conditions

- 12.1 Insertion, post-script, addition and alteration shall ~~not be recognized unless~~ confirmed by bidder's signature and stamp.
- 12.2 Incomplete tender or tenders not submitted as per requirement as indicated in the NIT shall be rejected.
- 12.3 Bidders shall submit their offer strictly as per terms and conditions of the tender document.
- 12.4 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.
- 12.5 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.
- 12.6 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.
- 12.7 Issuance of bid documents shall not be construed that the bidders would be automatically considered qualified.

GENERAL TERMS & CONDITIONS

1. Signing of Tender Paper:

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

2. Time of Completion

The work should be completed within **120 (one hundred twenty) days** from the date of issue of final work order. However, the supply of all the major materials for the work like SPV modules, battery, inverter, structures, cables, etc should be completed within **60 days** from the date of issue of final work order, failing which the work order shall stand cancelled and the Contract Performance Guarantee shall be forfeited. Recovery of the mobilization advance shall also be effected.

3. Agreement

An Agreement has to be signed within 15(Fifteen) days of issue of final work order. The Agreement shall be prepared by the successful bidder in the prescribed format (**Appendix 1**) 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.

4. Warranty

The System supplied should be under warranty for a period of **2 years** and the SPV Module for a period of **10 years** from the date of commissioning of the System.

5. 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 the contract value as mobilization advance on application and against a Bank Guarantee of like amount from any Nationalized Bank or Scheduled Bank valid for a period of 180 (One Hundred Eighty) days from the date of acceptance of work.
- (b) 40% (forty percent) of the contract value shall be paid against receipt of materials at site and in good conditions, subject to availability of funds.
- (c) 20% (twenty percent) of the contract value shall be paid on completion and commissioning of the System, subject to availability of funds.
- (d) Balance 10% (ten percent) shall be released at the expiry of warranty period and after submission of performance report duly certified by the concerned officer/user.

6. Contract Performance Guarantee

6.1 The bidder shall submit the Contract Performance Guarantee (CPG) @ 10% of the bid amount along with the financial bid. Financial bids without the CPG shall be considered non-responsive and the bid shall be rejected.

6.2 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 Contract Performance Guarantee shall be forfeited. Further, MNREDA shall have the right to recover any sums advanced to the contractor as mobilization advance.

7. 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 relieved the contractor from any obligation, duty or responsibility under the contract.

8. Contractor to Inform Himself Fully

- (a) The Contractor shall be deemed to have carefully examined the general conditions, specifications 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 matters.
- (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 MNREDA in writing in order to remove such doubts.

9. Service Center

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

10. Breach/ Cancellation of the Contract

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 **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.

11. 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.

12. 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.

13. 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 the MNREDA on merit.

14. 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 15 day's 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.

15. Arbitration

- (a) Except where otherwise provided, if at any time question, dispute or difference whatsoever shall arise between the contractor and the MNREDA upon or in the relation to or in connection with this contract, either of the parties may give to the other notice in writing of the existence of such a question, dispute or difference and try to resolve the same amicably. If the matter cannot be resolved amicably, it shall be referred to the sole arbitrator appointed by MNREDA at the time of dispute after ascertaining the terms of reference mutually.
- (b) The Arbitration will preferably be a member of Arbitration Council and arbitration proceeding will take place as per provision/s of Arbitration Act 1940 or any statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force shall apply.
- (c) The contractor will ensure that the work under this contract shall continue during arbitration proceeding and dispute and no payments due from or payment by the MNREDA shall be withheld on account of such proceeding except to the extent which may be in dispute.

16. Court of Competent Jurisdiction

The Courts of Shillong only have jurisdiction in this case.

SCOPE OF WORK & TECHNICAL SPECIFICATIONS

1. Scope of Work

The Scope of Work shall include the following:

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

This would inter-alia include

- a) A clear understanding of the features of the proposed project site. This may require a prior visit to the proposed site.
- b) Supply of the complete systems, including all necessary components, sub components, spares, and tools etc. as per technical specifications given elsewhere in this document.
- c) Erection and commissioning of the supplied systems on the specified site.
- d) Providing pedestals **if** required for mounting of the PCU'S and control panels.
- e) All structural drawings to be ~~get~~ approved ~~from~~ by the Project Officer Incharge, MNREDA.
- f) Any other work urgently required as per site conditions.
- g) The bidder must also provide a detailed operation and maintenance manual specific to the installed systems.
- h) Fabrications, supply and the installation of suitable support for the PV panels and other components whichever is required with the accessories.
- i) Civil work for SPV structure.
- j) SPV Power plant shall be installed as per the specifications provided in the technical offer.
- k) Provide sealed & tested energy meters at consumption side & generation side of SPV Power Plant.
- l) Provide electrochemical marking (embossing) on each solar module which will shows name of manufacturer, year of manufacturing and capacity of solar module.
- m) Supply of manual for Operation and Maintenance of all the system in English or local language.
- n) Supply and installation of control equipments required for the system.
- o) Training of the user for operation and maintenance of the system.
- p) Any additional works not covered above, but necessary for the functioning of the system and required as per specification incorporated.
- q) Regarding cabling work (external & internal) the tenderer is required to visit the site and as per actual site conditions quote (including drawing & design) accordingly.
- r) Regarding actual work to be carried out at the site, tenderer needs to execute the work in consultation with the office of MNREDA.
- ⇒ The tenderer shall provide Comprehensive Maintenance Contract (CMC) of 3 years after the end of the warranty period.
- t) The tenderer shall provide the necessary training to the identified representative approved by MNREDA during the course of 5 years of warranty and CMC periods for proper daily operation and maintenance of installed system.
- u) All cabling and load connections should be carried by the tenderer with proper synergy with the existing electrical systems of proposed project site.

2. General Technical Description & Configuration

a. Solar PV Module

Crystalline high power solar cells shall be used in the Solar Photovoltaic module. Each Solar module shall consist of redundantly interconnected solar cells and shall have the Peak Power rating of not less than 250Wp. To connect the solar module interconnection cable shall be provided. Module shall be made of high transmittivity glass front surface giving high encapsulation gain and silicon rubber edge sealant for module protection and mechanical support. All materials used shall have a proven history of reliable and stable operation in external applications. Solar module shall be crystalline type, employing lamination technology using established polymer (EVA) and tedlar laminate.

Solar module shall be in accordance with the requirements of IEC 61215. In addition, the modules must conform to IEC 61730 Part 1- requirements for construction & Part 2 - requirements for testing, for safety qualification or Equivalent IS.

b. Power Conditioning Unit

Power Conditioning Unit (PCU) provides an un-interrupted AC power using battery power. DCDB output will be fed to PCU which mainly consists of MPPT Charge Controller, Inverter, Voltage Stabilizer and distribution panel along with necessary Displays, Indicators and Alarms. The power conditioning unit shall convert DC Power by SPV modules and store in battery bank. Power Conditioning Unit (PCU) should preferably confirm to IEC standards or equivalent BIS standards.

The PCU in addition to battery charging during sunny hours also feed the loads from SPV Power Plant. The Solar Photovoltaic Power Plant shall cater to the electricity demand as per the proposed hours or duration per day. The system shall have the provision of charging battery bank through mains as well. It should be designed such that during sunny hours the loads are fed from SPV Power Plant in addition to battery charging. If the power produced from the Power Plant is not sufficient to feed the loads then the balance power shall be fed by Battery bank. In case Battery bank is not sufficiently charged, then the balance energy can be drawn from the Utility Grid. The Power Plant shall provide a reliable and independent power supply at a voltage and frequency levels to suit the grid voltage and frequency.

The power conditioning unit should be an integrated unit comprising MPPT solar charger and bidirectional inverter.

a. Battery Bank

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

b. Module Mounting Structure

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

c. ACDB and DCDB

AC Distribution Board/ Isolator Box:

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

DC Distribution Board:

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

d. Earthing & Lightning Arrestor

Earthing Protection:

The structure of the PV Module shall be grounded properly using adequate number of earthing kits. All metal casings/ shieldings of the plant shall be thoroughly grounded to ensure safety of the power plant.

Lightning Arrestor:

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

e. Remote Monitoring:

All the relevant parameters of PCU should be available for remote monitoring over the internet using GPRS based monitoring solution.

DATA SHEET

**3. Technical Specifications & Configuration:
Category – I**

Sl. No.	Item Description	Qty
1.	Solar PV Module 250Wp – 3kWp	1 set
2.	Power Conditioning Unit – 3KVA	1 set
3.	Battery Bank – 48V, 200Ah	1 set
4.	Module Mounting Structure	1 set
5.	AJB, ACDB & DCDB	1 set
6.	Earthing & Lighting Arrestor	1 set
7.	Cables & other components	As per site requirement

General Specification of PCU:

PCU Rating: 3KVA

Parameters	Specifications
Photovoltaic Input	
Nominal Input Voltage (Vdc)	_____ V
Input Voltage Range	_____ V
Maximum PV power recommended (KW)	3kWp
Charge Controller	Should be integral part of PCU
MPPT base Charge Controller	
Switching Element	IGBT
Controller	32 bit DSP Controller
Type of Charger	PWM with MPPT
Peak Efficiency	> 90%
Grid Input	
Input Supply Phases	Single Phase
Nominal Voltage & Range	230 VAC, 50Hz
Active Filtering during Load on mains	
a. THD	< 3%
b. Power Factor	> 0.99
c. Harmonic Attenuation Ratio	96%
Battery	
Type	VRLA/ Tubular Gel
Battery Nominal Voltage	48 V
Capacity	200 Ah
Grid through battery charging	Should be available
Active Filtering during Battery charging from Grid	
a. THD	< 3%
b. Power Factor	> 0.99
Inverter	
Switching Element	IGBT
Controller	32 bit DSP Controller
Nominal Output Voltage	230 VAC
Output Supply Phase	Single Phase, 2 Wire
Output Waveform	Pure Sine Wave
Nominal Frequency	50 Hz
Load Power Factor	0.6 lag to 1 (within KVA & KW rating)

Nominal Output Current (A)	_____ A (13 A ?)
Parameters	Specifications
Voltage regulation	± 2%
Voltage Stability in dynamic condition	Should complies with IEC/EN 62040-3 class-1
Output Voltage distortion with 100% linear load (%)	Should be < 2%
Overload at nominal output voltage for 15 minutes	110%
Overload at nominal output voltage for 10 minutes	125%
Overload at nominal output voltage for 1 minutes	150%
System peak efficiency	Should be > 92%
Noise @ 1 meter (dBA ± 2dBA)	< 68
Enclosure protection degree with open doors	IP20
Cooling	Forced Air
Galvanic Isolation	Inbuilt isolation transformer at inverter output
Protection	SPV Over Voltage
	SPV Under Voltage
	SPV Reverse Polarity
	Battery Over Voltage
	Battery Under Voltage
	Battery Reverse Polarity
	Grid I/P Over Voltage
	Grid I/P Under Voltage
	Grid O/P Overload
	Grid O/P Short Circuit
Over Temperature	
Display Parameter	Inverter O/P Voltage
	Current
	Frequency
	Battery Voltage
	PV Voltage
	PV Current
	Daily & Total Generation
Operating Temperature (°C)	0 – 50
Max. Relative Humidity (%)	Up to 95

MEGHALAYA NON-CONVENTIONAL AND RURAL ENERGY DEVELOPMENT AGENCY

Near B.S.F. Camp, Mawpat, P.O. Mawpat, Shillong – 793 012

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

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

PART – B

Financial Bid

PART –B
FINANCIAL BID

NIT No.: MNREDA/1641/2015/68

Date, Shillong, the 29th October, 2015.

Category: I

Sl. No.	Item	Quantity	Unit	Unit Price (Rs.)	Total Price (Rs.)
1.	SPV Modules with all accessories				
2	Battery with all accessories				
3	Inverter with all accessories				
4.	Structures				
5.	Balance of System				
	Sub-Total-A				
6.	Transportation & Insurance				
7.	Civil & Electrical works				
8.	Installation & Commissioning				
	Sub-Total B				
9.	Comprehensive Maintenance for 3(three) years.				
	Grand Total				

Rupees _____

- Note** :
1. The prices quoted above are complete in all respect as per Technical Specifications and inclusive of all Central/State/Local taxes & duties, packing, forwarding, transit insurance, loading & unloading, transportation & other charges etc.
 2. Certified that rates quoted are as per specifications, terms & conditions mentioned in the bid document.
 3. * Balance of System includes balance of materials as per specifications and Data Sheets to make the System operational.
 4. All the materials shall be delivered within 60 (sixty) days from the date of issue of the work order.

Date:

Signature of Tenderer
with Company seal.

PREAMBLE:

Contract for design, supply, manufacturing inspection, packing and forwarding, transportation, installation & commissioning of _____Kwp solar photovoltaic plant systems at_____ location in the State of Meghalaya.

This contract made this ___day of _____ Two thousand Fifteen at Shillong.

BETWEEN

Meghalaya Non-Conventional and Rural Energy Development Agency(MNREDA) having its office at Near BSF Camp, Mawpat, Shillong-793012, East Khasi Hills District, Meghalaya, India, hereinafter referred to as the “PURCHASER” which term or expression unless excluded by or repugnant to the context or the meaning thereof, shall be deemed to include its successors and permitted assigns, **OF THE ONE PART,**

AND

M/s _____ having its office at _____ Hereinafter referred to as “Supplier” which term or expression unless excluded by or repugnant to the context or meaning thereof shall be deemed to include its successors and permitted assigns), **OF THE OTHER PART,**

AND WHEREAS

- a. The PURCHASER has decided to get the work of supply, installation and commissioning of _____Kwp Solar Photovoltaic Power Plant at_____ location in the State of Meghalaya.
- b. The SUPPLIER has declared that he has valuable specialized knowledge and expertise fo Manufacturer, Shop Testing, packing, Forwarding, Transportation, Transit Insurance, Supply, Installation, Testing and Commissioning of Solar Photovoltaic power Plant Systems.
- c. The Supplier has obtained clarifications on technical and commercial aspects, inspected the site and generally all matters incidental thereto and ancillary thereof, affecting the execution and completion of the job, and
- d. The SUPPLIER has agreed to undertake the aforesaid work as per the Specifications and the terms and conditions of the PURCHASER.
- e. The SUPPLIER has accepted the tender of the SUPPLIER for the aforesaid work and on the basis of above declarations of the Supplier, has decided to enter into this agreement with the SUPPLIER.

NOW IT IS HEREBY AGREED AND DECLARED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

Article-1

- 1.1 In consideration of the total contract price of Rs. _____(Rupees _____)only and as per details specified in Purchase Order to be paid by the PURCHASER to the SUPPLIER for scope of work and services the SUPPLIER hereby covenants with the PURCHASER to perform the work detailed in Purchaser Order and Technical Specification.
- 1.2 Subject to the provisions of this contract, completion of the work within the stipulated time is the essence of the contract. The SUPPLIER shall arrange to effect deliveries of the materials, facilities and other services under this contract within the time schedule and in such manner that the completion of all items of work shall be synchronized in such a way that the overall schedule of the various items specified in the contract is observed and adhered to.
- 1.3 Notwithstanding the approval accorded by the PURCHASER to the appointment of any sub-Suppliers including those which may be specified in the contract, the SUPPLIER shall be solely responsible for the completion of the work as per specifications and within the time schedule agreed in this contract. Approval of any sub-Supplier by PURCHASER shall not relieve SUPPLIER from any of his liabilities or obligations under the contract and he shall be responsible for the acts, defaults and neglects of any sub-Supplier as fully as if they were the acts, defaults or neglects of SUPPLIER.

Article-2

The contract price is inclusive of all applicable charges, insurance, freight, TOT, Octroi, Excise Duty, Professional Tax, VAT and all the other taxes and duties.

Article-3

This contract shall come into effect from the date of Purchase Order.

Article-4.

In case of any failure in the due performance of the contract to deliver any part of the equipment or complete the work within the time fixed under the contract or any extension thereof granted to him by MNREDA and to fulfil his obligations in time under the contract, he shall be liable to pay MNREDA liquidated damaged as mentioned in the Purchase Order.

Article-5

The following documents shall form and be read and construed as an integral part of this contract: Purchase Order No.MNREDA/_____.

Article-6

All notices under this contract shall be given in writing and shall be deemed sufficiently given when delivered either in person or by telegram, fax/telex or by registered mail or courier addressed to the other party at its address set forth in the preamble to this contract with a copy to the nominated representative at site.

Article-7

This contract is executed in English language.

Article-8

The contract shall be subject to the exclusive jurisdiction of the courts under the Meghalaya High Court at Shillong.

IN WITNESS HEREOF the Parties hereto by representatives duly authorized have executed the contract on the day, month and the year first above written.

Signature

Signature

For and on behalf of Supplier

For and on behalf of

Meghalaya Non-Conventional and Rural Energy development Agency.

(Seal of the office)

(Seal of the office)

In the Presence of:

In the Presence of:

1.

1.

2.

2.

CONTRACT PERFORMANCE GUARANTEE

(To be stamped in accordance with Stamp Act)
(The stamp paper should be in the name of issuing bank)

Bank Guarantee No.

Ref:

Date :

To,

Director,
Meghalaya Non-Conventional and Rural Energy
Development Agency (MNREDA),
Near BSF Camp, Mawpat, Shillong-793012.

Dear Sir,

In consideration of the MNREDA Meghalaya Non-Conventional and Rural Energy Development Agency (hereinafter referred to as the (MNREDA) which expression shall unless repugnant to the context or meaning thereof includes its executors, administrators, successors and assigns) having accepted offer of Supply Installation Testing Commissioning(SITC) of Solar Project of _____ Kwp at _____ by M/s. _____ with its Registered/Head Office at _____ (hereinafter referred to as "Supplier", which expression shall unless repugnant to the context or meaning thereof includes its executors, administrators, successors and assigns) a contract by issue of (MNREDA) Letter of Award No. _____ Dated _____ and the same having been unequivocally accepted by the Supplier resulting in a "Contract" bearing No. _____ for Supply Installation Testing Commissioning(SITC) of Solar Project of _____ Kwp at _____ and the Supplier having agreed to provide a contract performance guarantee for the faithful performance of the entire contract equivalent to Rs. _____ (in figure and words).

Whereas the above said Letter of Award being assigned by MNREDA Authority Signatory (hereinafter referred to as the "MNREDA", which expression shall unless repugnant to the context or meaning thereof includes its executors, administrators, successors and assigns) vide MNREDA's , letter No. _____ dated _____ w.e.f. 01.01.2015 and accepted by the Supplier, thereby requiring the Contract Performance Guarantee for the same amount to be issued in favour of MNREDA.

We _____ (Name & Address), having our Head office at _____ and Branch office at _____ (hereinafter referred to as "Bank", which expression shall unless repugnant to the context or meaning thereof includes its executors, administrators, successors and assigns) do hereby guarantee and undertake to pay promptly to MNREDA, on demand any and all monies payable by the Supplier to the extent of _____ as aforesaid at any time upto _____ (DD/MM/YYYY) without any demur, reservation, contest, recourse or protest and/or without any reference to the Supplier. Any such demand made by MNREDA on the Bank shall be conclusive and binding notwithstanding any difference between the MNREDA and the Supplier or any dispute pending before any court, tribunal or any other authority. The bank undertakes not to revoke this Bank guarantee during its currency without previous consent of the MNREDA and further agrees that the guarantee herein contained shall continue to be enforceable till the MNREDA discharges this guarantee.

The MNREDA shall have the fullest liberty without affecting in anyway the liability of the bank under this guarantee from time to time to extend the time for performance of the contract by the Supplier. The MNREDA shall have the fullest liberty, without affecting this guarantee to postpone from time to time the exercise of any powers, vested in them or of any right which they might have against the Supplier, and to exercise the same at any time any manner, and whether to enforce or to forbear or to enforce any covenants, contained or implied, in the contract between MNREDA and the Supplier or any other course of remedy or security available to the MNREDA. The Bank shall not be released of its obligation under these presents by any exercise by the MNREDA of its liberty with reference to the matters aforesaid or any of them or by a reason of any other acts of omission or commission on the part of the MNREDA or any other indulgence shown by the MNREDA or by any other matters or thing whatsoever which under law would, but for this provision, have the effect of relieving the bank.

The bank also agrees that the MNREDA at its option shall be entitled to enforce this guarantee against the bank as a principal debtor, in the first instance without proceeding against the Supplier and notwithstanding any security or other guarantee that the MNREDA may have in relation to the Supplier's liabilities.

Notwithstanding anything contained herein above our liability under this guarantee is restricted to _____ and it shall remain in force upto and including _____ and shall be extended from time to time for such period, as may be desired by M/s. _____ on whose behalf this guarantee has been given.

Dated this _____ day of _____ 20__ at _____

Witness. 1.

Signature _____ (Signature) _____

Name _____ Bank Rubber Stamp

Official Address _____

_____ Name _____

(Designation with Bank Stamp) _____

Witness. 2.

Attorney as per

Signature _____

Power of Attorney No. _____

Name _____

Dated _____

Official Address _____
