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Meghalaya, India
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Ref: NITMGH/ES/RECTPCL/EE/035/VOL.IV/2019-20/559 **Date 06.06.2019**

NOTICE INVITING QUOTATION (NIQ) FOR SUPPLY & INSTALLATION EQUIPMENTS UNDER RECTPCL SPONSORED PROJECT IN THE DEPARTMENT OF ELECTRICAL ENGINEERING, NIT MEGHALAYA

NIT Meghalaya invites sealed tenders in a two bid system for supply and installation of equipments as per details at ANNEXURE-III. The first part is the **Technical Bid** which consists of technical requirements and general terms & conditions and the second part is the **Financial Bid.**

Prescribed Tender document, detailed fees and specifications, bid instructions and Terms & Conditions can be downloaded from the Institute website and should reach the undersigned on or before **1:00 PM on 25.06.2019.**

BID INSTRUCTIONS:

01. For submitting Technical and Financial bid, two separate sealed covers should be used with superscription clearly on the top of the Envelope. If two separate sealed covers are not used, the tender shall be cancelled as not conforming to the technical requirement. Both the sealed covers should be placed in the main sealed Envelope distinctly superscribed with the address of the Agency submitting the quotation and the Officer to whom the quotation is addressed to. Further, on the sealed cover, the following are to be written:

NOTICE INVITING QUOTATION (NIQ) FOR SUPPLY & INSTALLATION EQUIPMENTS UNDER RECTPCL SPONSORED PROJECT IN THE DEPARTMENT OF ELECTRICAL ENGINEERING, NIT MEGHALAYA
Ref: NITMGH/ES/RECTPCL/EE/035/VOL.IV/2019-20/559 **Date: 06.06.2019**

LAST DATE OF SUBMISSION:- **1:00 pm, 25.06.2019**. Technical bids will be opened on the same day at 3:00 p.m. After evaluation of technical bids, financial bids of the successful bidders will be opened on a later date which will be duly notified.

02. **Submission of Compliance Certificate:** Duly filled and signed Compliance Certificates (as per formats at Annexure-I A & B) are must with the Technical bid.
03. **Bid not transferable:** The bid documents are not transferable and the seal and signature of the authorized official of the firms must appear on all the papers and envelopes submitted.
04. The quantity mentioned for each item in the Annexure-III may vary depending on requirements.
05. GST Registration Certificate should be enclosed along with the tender documents.
06. Relevant catalogue of the items (if any) must be enclosed.
07. **Prospective vendors may interact with Prof. Gayadhar Panda, Professor & P.I. to know about the existing AC/DC Micro Grid set-up and technical scope of the specified item.**
08. For e-waybill the successful vendor has to apply online via **https://ewaybill.nic.in/ewb.html.**
09. Softcopy of the Technical bid either in Microsoft Word or Microsoft Excel format must also be submitted in a CD along with the Technical Bid, in addition to the hard copies.

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NIQ TERMS & CONDITIONS:

01. **Rates:** Rates quoted in the Price Bid should be on DOOR DELIVERY NIT Meghalaya basis, as per details below:

Group:	**Item Sl. No.**	**Item name**
Sl. No.	**Particulars**	**Rate**
I	Basic Price (per unit)	
	Discount if any	
	Total	
	GST (pl. break up CGST/SGST/IGST)	
	Total (per unit)	
	Grand total for the item	
II	Transportation charge up to NIT Meghalaya premises (if applicable)	
III	Transit Insurance covering all risk up to 10 days after delivery (if applicable)	
	Grand total on door delivery at NIT Meghalaya	
IV	Annual Maintenance Contract rate (after expiry of warranty period)	

Note: Vague terms like "packing, forwarding, transportation etc. extra" without mentioning the specific amount will not be accepted. Such offers shall be treated as incomplete and rejected. **Bidders shall indicate their rates in clear/visible figures as well as in words and shall not alter/overwrite/make cutting in the quotation. In case of a mismatch, the rates written in words will prevail. Usage of "White ink" to erase and then rewrite the rates will not be accepted.** Bidders are advised to strike out wrong entries and rewrite clearly beside them. In such cases, the bidder shall have to sign and place their official seal for every corrected entry.

02. Quotations have to be submitted in Indian Rupees only. If goods are to be imported, the quotations shall include all charges for customs clearance, clearing agent fees, landing port handling charges, insurance etc. and onward transportation of the goods from the port/airport of landing for door delivery upto NIT Meghalaya, Shillong, Meghalaya.

    NIT Meghalaya has a valid registration with the Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology, Government of India for availing Customs/Central Excise Duty exemption. NIT Meghalaya will provide all necessary certificates, authorizations and documents required for clearing the consignment and for onward transportation upto Shillong.

03. All documents submitted should be self-attested with seal of the bidder.

04. Bidder must unconditionally accept all terms and conditions stipulated in the tender document and all pages of the bid including all enclosures should be numbered and must be duly filled in, signed and stamped by the bidder or his authorized representative. Offers received without signature and seal on all pages are liable to be rejected.

05. **Validity of Quotation:** Quoted rates must be valid for 120 days from the date of quotation.

06. **Warranty:** The quoted equipment and components must be warranted for a minimum of one Year or period specified against the item.

07. **Literature must:** All the quotations must be supported by the printed technical data sheet/ literature and the specifications mentioned in the quotation must be reflected/ supported by such

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printed technical data sheet/ literature. The model no. and specifications quoted should invariably be highlighted in the data sheets/ literature for easy reference.

08. **Details of supply** of similar items to Institutes of National Importance (preferably those located in the Northeastern region) must be provided.
09. **Presentation:** Technically qualified bidders may be called upon to give full presentation of the quoted equipment at NIT Meghalaya campus before opening of Price bid as a support of their Technical Quotations and for any clarifications.
10. **Equipment breakdown**: Any Equipment breakdown must be attended to within 72 hours during the warranty period of the equipment free of cost.
11. **Training:** If required, free training is to be provided to NIT Meghalaya personnel on the operation, maintenance and trouble shooting of the supplied items. The vendor may arrange in-depth training program for research scholars at NIT Meghalaya campus, if required.
12. **After Sales Service:** Vendor should clearly state the available nearest after sales service facilities in the North Eastern region, without which the offer will be rejected.
13. **Dealership Certificate:** The bidder/tenderer should be either a manufacturer or authorized agent of the foreign/Indian manufacturer. Dealers or Agents quoting on behalf of Manufacturer must enclose valid dealership certificate.
14. **Quality Certificates:** Valid certificate to prove the genuineness of the products and of International standard, as mentioned below, must be enclosed
    (a) Manufacturer's certificate and
    (b) ISO/ISI certificate.
15. **Earnest Money:** Refundable earnest money deposit (EMD) of ₹ 48,000/- (Rupees Forty Eight Thousand) only through demand draft drawn in favour of National Institute of Technology Meghalaya, payable at Shillong, will have to accompany the technical Bid. The EMD of unsuccessful bidders shall be returned without any interest after award of contract. EMD of the successful bidder will be released without interest on submission of the Performance Bank Guarantee or delivery of the ordered items, as applicable.

    Firms registered under MSME will be exempted from submitting EMD. In case of firms registered under NSIC, exemption will be given to the permissible extent, as indicated in their Certificate. All vendors claiming exemption must submit copies of their valid MSME/NSIC registration Certificate (along with the Technical Bid in case of two bid system). Offers received without Earnest Money or valid Certificate shall be summarily rejected.
16. **Performance Bank Guarantee (PBG):** The successful bidder shall furnish an unconditional PBG (as per format at Annexure II) for 5% of the Purchase Order value from a Nationalized /Scheduled Bank of India, before release of the payment. Else 5% of the billed amount will be deducted as security deposit. Where the PBG is obtained by a foreign bank, it shall be endorsed by a Nationalized/Schedule Indian bank and shall be governed by Indian Laws and be subject to the jurisdiction of courts at Shillong. The PBG shall guarantee that,
    a) The Vendor guarantees satisfactory operation of the Equipment & components against poor workmanship, bad quality of materials used, faulty designs and poor performance.
    b) The Vendor shall, at his own cost, rectify the defects/replace the items supplied, for defects identified during the period of guarantee.
    c) The PBG shall remain valid for period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligations.

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17. **Delivery:**
    a. Time Limit: 90 (Ninety) days from the date of issue of purchase order.
    b. Safe Delivery: All aspects of safe delivery shall be the exclusive responsibility of the vendor. At the destination site, the package will be opened only in the presence of NIT user/representative and vendor's representative. The intact condition of the package and the seal/indicators for not being tempered with, shall form the basis for certifying the receipt in good condition.
    c. Insurance: The supplier is to establish 'All Risk Transit Insurance' coverage till door delivery at NIT Meghalaya.
    d. Part Delivery: Acceptance of part delivery shall be a prerogative of the Institute.
    e. Penalty for delay in delivery: The date of delivery should be strictly adhered to otherwise the Director, NIT Meghalaya reserves the right not to accept delivery in part or full.
18. **Before delivering the items, the vendor may visit the Institute for finding the feasibility of laboratory and roof-top space.**
19. **Genuine Pricing:** Vendor is to ensure that quoted price for the particular item is not more than the price quoted to any other customer in India, particularly to IITs/NITs and other Government Organization. Copy of the latest price list for the quoted item, applicable in India, must be enclosed with the offer.
20. **Conditional tenders not acceptable:** All the terms and conditions mentioned herein must be strictly adhered to by all the vendors. Conditional tenders shall not be accepted on any ground and shall be rejected straightway. Conditions mentioned in the tender bids submitted by vendors will not be binding on NIT Meghalaya.
21. **Late and delayed tender:** Late and delayed tender will not be considered. In case any unscheduled holiday occurs on the prescribed closing/opening date the next working day shall be the prescribed date of closing/opening.
22. **Payment: 100% payment within 30(thirty) days from date of successful completion of integration and demonstration.**
23. **Enquiry during the course of evaluation not allowed**: After opening the Technical Bid, no enquiry from the bidder(s) shall be entertained during the course of evaluation of the tender till final decision is conveyed to the successful bidder(s). However, the Purchase Committee or its authorized representative may make enquiries/seek clarification from the bidders. In such a case, the bidder must extend full co-operation. The bidders may also be asked to arrange demonstration of the offered items, in a short period of notice.
24. At any time prior to the date of submission of bid, NIT Meghalaya may, for any reason, either of its own or in response to a clarification from a prospective bidder, modify the bidding documents by an amendment / corrigendum. **Any such amendment / corrigendum will be duly notified through the Institute's website only**. Prospective bidders are advised to check the Institute's website every now and then for any amendment / corrigendum. In order to provide reasonable time to take the amendment into account in preparing the bid, NIT Meghalaya may extend the date and time for submission of bids.
25. The acceptance of the quotation will rest solely with the Director, NIT Meghalaya, who in the interest of the Institute is not bound to accept the lowest quotation and reserves the right to

himself to reject or partially accept any or all the quotations received without assigning any reasons.

26. **Force Majeure:**

If the performance of the obligation of either party is rendered commercially impossible by any of the events hereafter mentioned that party shall be under no obligation to perform the agreement under order after giving notice of 15 days from the date of such an event in writing to the other party, and the events referred to are as follows:

(a) Any law, statute or ordinance, order action or regulations of the Government of India,

(b) Any kind of natural disaster, and

(c) Strikes, acts of the Public enemy, war, insurrections, riots, lockouts, sabotage.

27. **Termination for default:** Default is said to have occurred

(a) If the equipment or any of its component is found having poor workmanship, faulty designs, poor performance and bad quality of materials used.

(b) If the supplier fails to deliver any or all of the services within the time period(s) specified in the purchase order or any extension thereof granted by NIT Meghalaya.

(c) If the supplier fails to perform any other obligation(s) under the contract.

Under the above circumstances NIT Meghalaya may terminate the contract / purchase order in whole or in part and forfeit the EMD/PBG as applicable. In addition to above, NIT Meghalaya may at its discretion also take the following actions: NIT Meghalaya may procure, upon such terms and in such manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting supplier shall be liable to compensate NIT Meghalaya for any extra expenditure involved towards goods and services obtained.

28. **Applicable Law:**

(a) The contract shall be governed by the laws and procedures established by Govt. of India and subject to exclusive jurisdiction of Competent Court and Forum in Shillong / India only.

(b) Any dispute arising out of this purchase shall be referred to the Director, NIT Meghalaya, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the Director of the Institute. The decision of such Arbitrator shall be final and binding on both the parties.

Registrar

Encl.: ANNEXURE-I, ANNEXURE-II, ANNEXURE-III.

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Annexure –I

A. COMPLIANCE CERTIFICATE FOR NIQ TERMS
(To be enclosed in the Technical bid)

Sl. No.	NIQ Terms and Conditions	Yes/No
01	**Rate** quoted as per instruction	
02	**AMC rate** after warranty provided	
03	**Validity** of quoted rate for 120 days agreed	
04	**EMD** submitted / appropriate certificate enclosed	
05	**PBG** term agreed	
06	**Payment** term agreed	
07	**Delivery terms** agreed	
08	**Warranty period** agreed	
09	**Literature:** Printed Literature provided	
10	**Dealership** / distributorship certificate (in case of dealers/agents) provided	
11	**Details of supply to other Institutes of National Importance** provided	
12	**Equipment breakdown clause** agreed	
13	**After Sales Service**: address of nearest after Sales Service centre in the region provided	
14	**Manufacturer** certificate provided	
15	**ISO/ ISI** certification provided	
16	**Applicable law** terms agreed	

Signature with Seal:..…….
Vendor: M/s……

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Annexure -I

B. COMPLIANCE CERTIFICATE FOR SPECIFICATIONS
(One for each item, must to be enclosed in the Technical bid)

Item Sl. No.		**Item Name:**	
Quoted Product:	**Make:**	**Model No:**	
Specifications as per Annexure-III		**Quoted Item Specifications***	**Complied/ Deviation**
Parameter	**Specification**		

Signature with Seal: ..…….
Vendor: M/S ……

*** Vendor must quote the parameter specification of the quoted product in this column and not just copy the specification from the tender call document. Failure to do so will lead to rejection of the tender.**

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Annexure -II

PERFORMANCE BANK GUARANTEE

To:
The Director,
National Institute of Technology Meghalaya
Bijni Complex, Laitumkhrah, Shillong-793 003
Meghalaya

WHEREAS ..... (Name of Supplier)
hereinafter called "the Supplier" has undertaken, in pursuance of Contract No..... dated,.....
20... to supply..... ..... (Description of Goods and Services)
hereinafter called "the order".

AND WHEREAS it has been stipulated by you in the said order that the Supplier shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the order.

AND WHEREAS we have agreed to give the Supplier a Guarantee:
THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of .... (Amount of the Guarantee in Words and Figures) and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the order and without cavil or argument, any sum or sums within the limit of ..... (Amount of Guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the .....day of.....20.....

Signature and Seal of Guarantors
.....
.....
.....
Date.....20....
Address:.....
.....
.....

All correspondence with reference to this guarantee shall be made at the following address:

The Director,
National Institute of Technology Meghalaya
Bijni Complex, Laitumkhrah, Shillong-793 003
Meghalaya

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ANNEXURE-III

DETAILED TECHNICAL SPECIFICATIONS

Item 01	Qty
5 KW ROOF TOP SOLAR ENERGY SYSTEM (LABORATORY POWER SUPPLY CUM RESEARCH MODULE) a) 5 kW **PV Panel, battery and other accessories** • 260Wp solar Panel: 20 no.'s (OR) 320Wp solar Panel: 16 no.'s • Solar panels mounting structure and cabling • Solar meter and Net metering for weather monitoring • Battery: 100AH/12V • MCB, fuses, junction box, cable, connectors, lighting arrestors, earthing etc as required b) **Grid Tied 5 kW/6KVA/ 3-phase Inverter with monitoring and control system** • Nominal output power - 6000VA • Input voltage - 400V DC • Operating temperature: 0-36°C • Input current: 15A • O/P noise: <500mvrms • Recovery time of output waveform: more than 50µs • Output voltage (AC): 0-300v • Maximum continuous output power (AC): 6000VA • Maximum Inrush (3 Second) output power: 12000VA • Maximum output current (Continuous): 20A • Maximum output current (Inrush): 40A • Output frequency: 50-60 Hz • THD (I) : < 1% • PHASE: 3-ph O/P c) **MPP tracking & dc-link control performance analysis facility** • PV voltage and PV current sensing points with on-board display • MPPT operation validation in all operating conditions • DC-link voltage sensing points with on-board display • DC-link control validation in all operating conditions • MPP output and inverter PWM pulses sensing points • Battery voltage, current and state-of-charge observations with on-board display • Inverter output voltage and current sensing points (before filter and after filter) with on-board display • Load side voltage and current sensing points with on-board display	**01**

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Item 02	Qty
CUSTOMIZED SINGLE-PHASE 7-LEVEL 7-SWITCH GRID-TIED MULTILEVEL INVERTER (MLI) INTERFACING PV PANELS VIA THREE DC-DC CONVERTERS a) **PV Panels, panel mounting stand, cables & connectors as required** • 260W solar Panel: 3 no.'s (OR) 320W solar Panel: 2 no.'s • Solar panels mounting structure • Solar meter and Net metering • MCB, fuses, junction box, cable, connectors as required b)**) Customised Multilevel inverter with required controller (DSP/FPGA board)** • 7 no's of SEMIKRON IGBT rating @1200V,75A used to form single-phase 7-level multilevel inverter power circuit • All IGBT are mounted on proper heat sink. • 7 no's of driver circuits used to isolate and drive IGBT PWM signals. • 7 no's of isolated regulated power supply rating @ +15V/0.5A for IGBT PWM driver circuits. • 4 no's of current sensor used to sense the dc-link & o/p current. • Overall inverter DC link voltage------350V dc max • Each inverter o/p voltage -----0-230V ac rms • Each inverter o/p current-----3A max • O/P power----------500W • Input voltage & current sensing points with on-board display • MPPT & dc-link voltage control validation • DC-link voltage, inverter output , PWM sensing points • Load side voltage and current sensing points with on-board display c) **Grid side interfacing stuffs** • LA25-P Hall effect current sensors with signal conditioner - 2 no.'s (25A current sensor), which is used to measure the grid side and inverter O/P currents. • 1no. of PT with signal conditioner used to sense the grid voltage. • 2 no. of inductors used to filter the grid side injected current. • 1ph contactors and MCB. • 1no. of 1ph 110-0-110V/230 V step up transformer used for voltage matching. • 1no. of relay with contactor used for isolate the inverter from grid. d) **DC- DC Boost converter**--------3nos 250W DC-DC Boost converter • Switching device IGBT Rating @600v, 25A, 20 kHz with proper heat sink and snubber circuit used to form power circuit. • I/P voltage range -min : 60V dc	**01**

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• O/P voltage range-max : 120V dc • O/P power :250W (max) • Switching frequency---5-20kHz • TLP250 IC based PWM driver circuit. • Hall Effect current sensors used to sense inductor current and input current. • Two voltage sensing circuit used to sense the i/p and o/p voltage of the converter. • Voltage and current sensor o/p points terminated.	

Item: 03	**Qty**
PHASOR MEASUREMENT UNIT (PMU) WITH INBUILT GPS AND PDC • ANALOG CURRENT MEASUREMENT INPUTS • Number of inputs: 4 (IA, IB, IC and IN) • Rated Current: 1A/5A • Maximum Burden: ≤0.01VA@1A, ≤0.1VA@5A, <4 VA@42A • Measurement accuracy with 100% asymmetrical current: Minimum 95% • Synchrophasor Accuracy Magnitude: ±1.0% @ 25 °C + (± 20PPM/ °C) ≤14 A (5A) or ≤3.5 A (1A) ±1.2% @ 25 °C, + (± 125PPM/ °C) >14 A (5A) or >3.5 A (1A) • Synchrophasor Accuracy Angle: ±0.5 degree @ 25 °C + (± 20PPM/ °C) ≤14 A (5A), or ≤3.5 A (1A) ±0.8 degree @ 25 °C + (± 125PPM/°C) >14 A (5A) or >3.5 A (1A) • ANALOG VOLTAGE MEASUREMENT INPUTS: Number of inputs: 4(VA, VB, VC and VN) • Rated voltage: 57.7 V ac to 138.6 V ac (L-N) • Measurement bandwidth (-3 dB), DC to 3 kHz • Messages per second: 1, 2, 5, 10, 25, 50, 100, 200 for 50Hz signal, 1, 2, 4, 5, 10, 12, 15, 20, 30, 60, 120, 240 for 60Hz signal • Built-in GPS option: GPS option replaces PPS fiber optic input with a SMA antenna connector. Base precision < 45 nanoseconds	**01**

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