Madan Mohan Malaviya University of Technology, Gorakhpur



INVITATION LETTER

Package Code: CRS/TEQIP-III/2020/UP/mmug/01 Current Date: 29-Jan-2020
Package Name: MUTECCRS01 Method: National Shopping

To,

Sub: INVITATION LETTER FOR MUTECCRS01

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

| Sr. No | Item Name | Quantity | Place of Delivery | Installation Requirement (if any) | Required Delivery Time |
|-----------|--|----------|----------------------|-----------------------------------|--|
| 1 | Measurement Setup for Antenna Testing | 01 | MMMUT, Gorakhpur | | Within 4 weeks after issuing of Purchase order |

| 2. | NPIU-MHRD (Government of India) has received a credit from the International Development Association (IDA) towards the cost of the Collaborative Research Scheme (CRS) under Technical Education Quality Improvement Programme [TEQIP]-Phase III Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued. | | | | |
|----|--|--|--|--|--|
| 3. | Quotation | | | | |
| | 3.1 The contract shall be for the full quantity as described above. | | | | |
| | 3.2 Corrections, if any, shall be made by crossing out, initialling, dating and re writing. | | | | |
| | 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit Price. | | | | |
| | 3.4 Applicable taxes shall be quoted separately for all items. | | | | |
| | 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account. | | | | |
| | 3.6 The Prices should be quoted in Indian Rupees only. | | | | |
| 4. | Each bidder shall submit only one quotation. | | | | |
| 5. | Quotation shall remain valid for a period not less than 60 days after the last date of quotation submission. | | | | |
| 6. | Evaluation of Quotations: The Purchaser will evaluate and compare the quotations determined to be Substantially responsive i.e. which | | | | |
| | 6.1 are properly signed; and | | | | |
| | 6.2 Confirm to the terms and conditions, and specifications. | | | | |
| 7. | The Quotations would be evaluated for all items together. | | | | |

| 8. | Award of contract The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price. | | | | |
|----|--|--|--|--|--|
| | 8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of Contract. | | | | |
| | 8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be Incorporated in the purchase order. | | | | |
| 9. | Payment shall be made in Indian Rupees as follows: | | | | |

| Payment Description | Expected Delivery Period (in Days) | Payment Percentage |
|--------------------------------------|------------------------------------|-----------------------|
| Satisfactory Delivery & Installation | 30 | 80 |
| Satisfactory Acceptance | 30 | 20 |

| Liquidated Damages will be applied as per the below: Liquidated | | | | |
|--|--|--|--|--|
| Damages Per Day Min %: 0.01 | | | | |
| Liquidated Damages Max %: 10 | | | | |
| All supplied items are under warranty of 12 months from the date of successful acceptance of items | | | | |
| and AMC/Others is. | | | | |
| You are requested to provide your offer latest by 15:00 hours on 14-Feb-2020. | | | | |
| Detailed specifications of the items are at Annexure I. | | | | |
| Training Clause: In-house (MMMUT) training for two days | | | | |
| Testing/Installation Clause: Complete Installation and demonstration is required for Measurement Setup for Antenna | | | | |
| Certificates of manufactures/authorized dealers/agents must be attached with the quotation. | | | | |
| Copy/List of purchase orders of similar equipment/goods supplied to other reputed organizations should be attached with the quotations in support of quoted rates. | | | | |
| Should follow Environmental Management System like ISO- 14001:2001 Consistent with the Bidders | | | | |
| Environmental Policy. Compliance to Quality Management System like ISO- 9001:200 function | | | | |
| effectively by adopting a process approach. Should have adopted Quality, Environment, Health and | | | | |
| Safety Policy to meet changing expectations of customers, to use resources in environment friendly | | | | |
| manner and to minimize hazards/risks in compliance with occupational health and safety practices. | | | | |
| The bidder should not have been blacklisted by central/ state Government/ PSU entity in India or | | | | |
| similar agencies globally for unsatisfactory past performance, corrupt, fraudulent or any other | | | | |
| unethical business practices as on date of submission of the proposal. | | | | |
| The bidder should have a registered number of GST registration certificate from GSTN, where | | | | |
| business is located. The bidder should have a registered income tax/ PAN number and must have a | | | | |
| clearance status | | | | |
| Any deviation from the printed specifications should be clearly mentioned in the offer document by | | | | |
| the Bidder. | | | | |
| | | | | |

| 22. | In case the firm decline to offer the specified equipment after receiving the purchase order it will be get blacklisted by the MMMUT and the concerned firm will not be qualified for bidding in future. | | | | |
|-----|--|--|--|--|--|
| 23. | At least one or more similar nature of work should be executed in any NIT/IIT/Govt. Institutions. Necessary document must be accompanied along with the bid. | | | | |
| 24. | Successful bidders kindly Provide Performance security @ 10% of the goods cost (where total package cost exceeds Rs. 5 lacs), valid for 1 Year | | | | |
| 25. | Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for. | | | | |
| 26. | The OEM should have GAC/GRIHA/IAQ certified products. | | | | |
| 27. | Company shouldn't be blacklisted in recent years. | | | | |
| 28. | In order to provide better service to institution, the bidder should have local service setup at Gorakhpur | | | | |
| 29. | The Bidder should have its own in-house testing facility. Quality Management System as per International Standards. The Bidder shall furnish all such certificates as and when required. | | | | |
| 30. | Sealed quotation to be submitted/ delivered at the address mentioned below, | | | | |
| | The Registrar, M. M. M. University of Technology, Deoria Road, Gorakhpur – 273010 | | | | |
| 31. | We look forward to receiving your quotation and thank you for your interest in this project. | | | | |
| 32. | Any dispute shall be settled in Gorakhpur Jurisdiction only. | | | | |

(Authorized Signatory)

Name & Designation

Annexure I

| Sr. No | Item Name | Specifications | | | | |
|-----------|-------------|---|--|--|--|--|
| 110 | | Equipment: - | | | | |
| 1 | Measurement | | | | | |
| | Setup for | 1. RF Diversity with Embedded Interface | | | | |
| | Antenna | 2. RF Field Measurement System for Antenna Placement | | | | |
| | Testing | 3. RF Cable & Adapters 4. RF Diode and RF Module | | | | |
| | | 4. RF Diode and RF Module | | | | |
| | | RF Harvesting / RF diversity with Embedded Interface | | | | |
| | | The main focus is RF active devices for Harvesting with | | | | |
| | | impedance matching treatment frequency should up to 3GHz. | | | | |
| | | Device should modular in approach with MATLAB based code | | | | |
| | | compatible for controlling /triggering /biasing. | | | | |
| | | Basic below set for rapid prototype | | | | |
| | | 1. Quarter wave matching for variable resistive load, | | | | |
| | | 2. SP4T PIN Diode configurable With TTL control, | | | | |
| | | 3. VCO with programmable control. | | | | |
| | | 4. DC bias signal from 0 to 18V TTL control, Single Tone | | | | |
| | | frequency Generator. | | | | |
| | | 5. RF Schottky diode Module | | | | |
| | | 6. RF devices are excited controlled / triggered by platform | | | | |
| | | .MATLAB based control code should require demonstrating with | | | | |
| | | the help of RF device atomisation & triggering. DC bias signal | | | | |
| | | from 0 to 18V TTL control, Single Tone frequency Generator. | | | | |
| | | Specifications :- | | | | |
| | | • System Bandwidth 80MHz. | | | | |
| | | Band of operation -865MHz/2400MHz | | | | |
| | | System type: RF harvesting functionality (Dual BAND) | | | | |
| | | Gain of antenna: 10Db @ centre | | | | |
| | | • Gain of system: 15 to 35 dB (Variable) | | | | |
| | | • Time of conversion: approx. 160Ms | | | | |
| | | • Switching speed of antenna: 200mS | | | | |
| | | Mechanical Platform: PTFE material (stand, holder, | | | | |
| | | antenna mount) | | | | |
| | | Impedance 50 Ohm SMA Female | | | | |
| | | • System Power Handling +30dBm without ATT. | | | | |
| | | System input: received signal from Array antenna. | | | | |
| | | System input: received signal from Array antenna. System output: DC voltage. | | | | |
| | | Single Tone VCO for calibration. | | | | |
| | | Software: Test code | | | | |
| | | | | | | |
| | | Harvesting System sensitivity: 2mV/Db @ below -20dBm 15mV/Db @ below -2dBm | | | | |
| | | 15mV/Db @ below+3dBm | | | | |
| | | 25mV/Db@ below +23dBm | | | | |

Antenna Type: Array antenna reflector type@2.4GHz
 Array antenna Microstrip type 2.4GHz
 Array antenna dipole type 865MHz

RF FIELD Measurement System for antenna placement

Field extraction with the help of Azimuth and elevation & E plane field detection. Theta ranging from 0 to 360 degree & phi ranging from -90 to +90 degree E PLANE 0 TO 360 Degree with resolution of 1 degree. Scan table facility for or IoT devices. Preamplifier facility for week fast fade RF signal. Micro strip compatible holder.

- 1. Theta ranging from 0 to 360 degree (Motorize)
- 2. phi ranging from -90 to +90 degree (NON-Motorize)
- 3. Resolution of 1 degree.
- 4. Scan table facility for emission capturing
- 5. Antenna placement Holder: reflector antenna, Microstrip antenna
- 6. RF detector wideband 8GHz detector.
- 7. Detector dynamics with pre-amplifier 90dB
- 8. Compression point +13dBm
- 9. Field value: time vs rf power

RF CABLE & Adapters

Type N to SMA male high frequency cable DC to 6 GHz, low insertion loss, 50-ohm impedance.

RF diode & RF module

High frequency diode, high frequency module, interconnecting adapter

FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

| Da | te: | | | | | | | |
|----------|------------------------|--|--------------------------------|--|--|------------------------|-------------------------------|----------------|
| То | : | | | | | | | |
| | Sl. No. | Description of goods \ (with full Specifications) | Qty. | Unit | Quoted Unit rate in Rs. (Including Ex-Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments) | Total Price (A) | Sales tax and o | In figures (B) |
| | | | | | | | | |
| | | Total Cost | | | | | | |
| Wood | e confirm anditions as | amount in words) with that the normal com- mentioned in the Invertify that we have tal | hin the mercial ritation | period s _l l warran Letter. | the with the technical specifications for a tot specified in the Invitation for Quotations. The type of type of the type of t | shall apply to the off | (An fered items and we also c | |
| Na Ac | me: | Supplier | | | | | | |