**Tender cost Rs. 1000/-**

**1**

# Electrical Engineering Department

*TENDER DOCUMENT*

For

# Smart Grid Simulator & Renewable Energy Lab

**(2020-2021)**

# General Terms and Conditions

**#Validity of rates must be for minimum 8 months.**
**#Warranty period 12 Months ( free of cost).**
**#Performance security 10% will be deducted at the time of payment, with will be released at the end of warranty period on successful working of the equipment's.**
**#Supply will be done within 30 days from the date of order.**
**#In case of unjustified delay, liquidity damages will be deducted @0.01% per day.**
**#Tender cost is Rs.1000/- which is to be deposited along with tender in the form of DD in favor of the Director, MITS Gwalior.**

**Vendor must give offer for all items in the package. Partial offers will be rejected.**
**The evaluation/award of contract will be done on the basis of total package cost (not on the basis of individual items).**

1. Quotation,
   1.1 The contract shall be for the full quantity as described above.
   1.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
   1.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
   1.4 Applicable taxes shall be quoted separately for all items.
   1.5 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.
   1.6 The Prices should be quoted in Indian Rupees only.
2. Each bidder shall submit only one quotation.
3. Evaluation of Quotations,
   The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which
   3.1 are properly signed and
   3.2 Confirm to the terms and conditions, and specifications.
4. The Quotations would be evaluated for all items together.
5. 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.
   5.1 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.
   5.2 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.
6. Payment shall be made in Indian Rupees as follows:
   **Delivery, Installation, training and Satisfactory Acceptance - 90% of total cost.**
   **The performance security (10% of basic cost of order value) will have to be deducted from the payable amount and will be return at the end of warranty period on successful working of the equipment.**

7. You are requested to provide your offer latest by **14:00** hours on **25/07/2020. The Technical bid of offers will be opened at 14:30 on 25/07/2020. The commercial offer of technically eligible bidders will be opened at 15:00PM on 25/07/2020**
8. All supplied items are under warranty of 12 months with support and maintenance (free of cost) from the date of successful acceptance of items.
9. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
10. The Vendors must enclose OEM certificate/authorized channel partner /authorized distributor/authorized dealer.
11. The vendor must submit the GST certificate and ITR of last three years.
12. Vendor must produce a certificate with his seal and sign on his letter head that he accept all the terms and condition in the invitation letter.
13. If items are not supplied within time line, paneling may be imposed on the supplier.
14. Training Clause: Seller has to arrange the training with course material (if required) at MITS, Gwalior without any extra payment
15. Testing/Installation Clause: Seller has to installed the equipment's successfully at MITS, Gwalior without any extra payment
16. Sealed quotation to be submitted/ delivered at the address mentioned below,
    Director, Madhav Institute of Technology & Science,
    Gola Ka Mandir, Residency Road Gwalior-474005(M.P) India
17. **Please Mention the following things on the top of the envelop**
    i. **Package Name**
    ii. **Last date of Submission**
18. The outer sealed envelope must specify the **PACKAGE NAME.** There must be two sealed envelope inside it. The first sealed envelope must be marked as **ENVELOPE – 1.** It must contain following documents:
    - GST certificate
    - ITR of last three years
    - OEM certificate/authorized channel partner /authorized distributor/authorized dealer certificate
    - Product catalogue
    - Work experience in the same domain if any
    - **EMD (Rs 40,000/-) in the form of DD in favour of the Director, MITS Gwalior**

The second sealed envelope must **only contain the financial bid** (marked as **ENVELOPE – 2).** The second envelope will only be opened when the committee finds the offer as technically suitable as per our terms and conditions.

19. The Institute reserve the right to cancel the tender without any notice.

**DIRECTOR**

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It is certified that, the …… (Firm name), agree all the terms and conditions of the tender. We know that in case of any deviation from the terms and conditions will cancel our offer.

**Vendor Name, Seal and Sign with Date**

## Scope of Work

**Objective -**
It is proposed to develop a fully equipped state of Smart Grid Simulator & Renewable Energy Lab at MITS Gwalior. The Laboratory must have a Smart Grid Simulation Software, Smart Grid simulator with Real Time Data Acquisition system and power measurement unit hardware & Renewable energy & Smart Grid Hardware Simulator setup with all associated instrumentation facility, static and dynamic arrangements of renewable energy setups.

**The work basically consists of following components:-**

1. Smart Grid Simulation Software.(Annexure-1)
    a. PQ Analysis
    b. Phasor measurement unit

2. Smart Grid simulator with Real Time Data Acquisition system and power measurement unit hardware. (Annexure-1)

3. Renewable energy & Smart Grid Hardware Simulator (Annexure-1)
    a. Solar Power Generation System(2KW) Grid-tie Inverter with charge controller, Wind Turbine with Charge Controller (1 KW)
    b. Battery Bank 12V, 100Ah Rating

**TERMS AND CONDITIONS:**

1. The Tenderer should supply following with the tender, without which the offer is liable to be rejected.
    - Profile of the company.(Must be ISO certified)
    - List of customers
    - Detailed Project Report (DPR) for the complete work, covering all aspects from point (2-7) of the work.
    - Name/Make of the manufacturer of each as per Annexure-1.

<u>Note : Before deciding about the award of contract and/or during the contract period Director MITS Gwalior reserves the right to inspect/depute his representative to inspect, the factory/workshop of the suppliers/manufactures and institutions where the tenderer had carried out work in the past. During the inspection, if it is observed that the work carried/being carried out is not up to the mark, then Director MITS Gwalior reserves the right of not awarding/ cancellation of the contract.</u>

2. All additional required Items, cables, wires, switches, working benches, sensors, switches etc. should be of standard make.

3. Damaged, defective or substandard material will not be accepted under any circumstances.

4. Catalogue for experiments, technical literature, wherever necessary should be supplied along with tender document.

5. In the last three year, the bidders should have supplied the product/components/equipment to the minimum two Government or Autonomous organization/Institution. The copy of the proof is to be attached.

6. Average annual turnover for the last 3 year should at least 100 lakhs.

7. The tenderer should produce audit statement of accounts for the last 3 years.

**The tenderer shall produce documentary evidence on the above said items (4-7) as proof of meeting the above qualifying requirements and** the **Tenderer will have to quote for all the Items given in Annexure-1, otherwise the Tender will not be considered.**

- **SPECIAL TERMS AND CONDITIONS**

- TRAINING: -
  - Vender shall provide time to time required Training Program on Smart Grid Simulation Software, Smart Grid simulator with Real Time Data Acquisition system and power measurement unit hardware & Renewable energy & Smart Grid Hardware Simulator of supplied items at our Institution.

- AFTER SALES SERVICE: -
  - Vendor should provide at least 24 months after sales service from the date of commissioning.

**Annexure-1**

# Smart Grid Simulator & Renewable Energy Lab

| Item No. | Description | Qty. | Unit Price | Total Price |
|---|---|---|---|---|
| | **Software** | | | |
| 1 | **Smart Grid Simulation Software**<br>(Academic Site License – LabVIEW Research Only (1User) with Multisim (1user)<br>**PQ Analysis, Measurement**<br>Protection for 50 Hz/60 Hz Systems,<br>Measure power quality and energy features to IEC, EN, and IEEE standards<br>Harmonics (IEC 61000-4-7) and<br>Flicker (IEC 61000-4-15)<br>**Phasor measurement unit**<br>(C37.118) [Professional Edition Only]<br>Sag/swell/interruption with standard or custom levels (IEC 61000-4-30)<br>Rapid voltage change with standard or custom levels (IEC 61000-4-30)<br>Compatibility with the COMTRADE (IEEE 37.111) file format | 1 | | |
| | **Hardware** | | | |
| 2 | **Smart Grid simulator with Real Time Data Acquisition system and power measurement unit hardware**<br>667 MHz Dual-Core CPU, 512 MB<br>Extended Temperature, 8-Slot CompactRIO Controller, ±10 V, 250 kS/s, 16-Bit, 32-Channel, 60 VDCe.<br>GPS C Series Synchronization Module—To provide accurate time synchronization for CompactRIO systems.<br>300 Vrms, 50 kS/s/ch, 24- Bit, Simultaneous Input, 3-Channel C Series Voltage Input Module—for differential analog input.<br>50 kS/s/ch, 5 Arms, 24-Bit, 4 Channel C Series Current Input Module—To provide high-accuracy measurements to meet the demands. | 1 | | |

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|---|---|---|---|---|
| **3** | **Renewable energy & Smart Grid Hardware Simulator setup**<br>Solar Power Generation System (2kW)<br>Grid-tie Inverter with charge controller,<br>Wind Turbine with Charge Controller (1 kW),<br>Battery Bank<br>12V, 100Ah Rating Quantity – 8 Nos.<br>Smart House- Operates on conventional AC power supply<br>Control switches for electrical plug points<br>Automated master control using software Experimental Kit, DC/AC Breakup Box,<br>Weather station- Measures the actual external weather station parameters,<br>Analysis of variation in load with climate.<br>Software-Smart Grid Energy Monitoring,<br>Solar Energy Monitoring,<br>Wind Energy Monitoring,<br>Renewable Energy Monitoring,<br>Weather Monitoring | **1** | | |
| | **Total** | | | |
| | **GST and other taxes as applicable** | | | |
| | **Grand-Total** | | | |
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**# Vender must specify the make and model of each item and provide the list of experiments, performed using various Setups.**