



**NATIONAL INSTITUTE OF SOLAR ENERGY**  
An autonomous Institute of Ministry of New & Renewable Energy)  
**GURGAON**

**NOTICE INVITING TENDER TEST BED MONITORING EQUIPMENT**

Sealed Tenders are invited by office of the Director General, National Institute of Solar Energy (NISE) Gurgaon for supply, installation and commissioning of Test Bed Monitoring Equipment at NISE as per given specifications. The tender document and detailed technical specifications along with tender terms and conditions may be downloaded from the website of Ministry of New & Renewable Energy: [www.mnre.gov.in](http://www.mnre.gov.in) or [www.nise.res.in](http://www.nise.res.in).

Sealed tenders should be submitted in two parts i.e. Part-I and Part-2. Part-1 should contain Technical Bid along with Demand Draft for EMD and should be kept in a sealed envelope super scribed as technical bid. Part-II should contain the commercial invoice and should be kept in a separate sealed envelope super scribed as Commercial bid. Both the envelope should be kept in another envelope super scribed as Tender for Test Bed Monitoring Equipment, addressed to: The Director General, National Institute of Solar Energy, Faridabad- Gurgaon Road, Gwal Pahari, Gurgaon, Haryana, India. The bidders may submit their tenders by post or by dropping it in the tender drop box located at the reception counter of NISE Gurgaon by 1.00 P.M. 17th December, 2015. The technical bids will be opened on the same day at 3.00 P.M. The financial bids of the successful technical bids will be opened on 23<sup>rd</sup> December, 2015 at 2.30 P.M.

**F.No.01/12(01)/2015/NISE/PV(OTF)**  
**National Institute of Solar Energy**  
(An autonomous Institute)  
**Gurgaon-Faridabad Road,**  
**Gwal Pahari, Gurgaon 122003 (HR).**  
**Phone: 091-124-25853056**

**Tender Document**

**Sub: Tenders for supply, installation and commissioning of a Test Bed Monitoring Equipment at National Institute of Solar Energy, Gurgaon – reg.**

On behalf of Director General, National Institute of Solar Energy, an autonomous Institute of Ministry of New and Renewable Energy, Government of India invites sealed tenders in two parts (Technical and Commercial offers separately) from original equipment manufacturers or their authorized Indian representatives, for design, supply, installation and commissioning of a **Test Bed Monitoring Equipment** at the Institute. The original manufacturer should be a reputed company and should have sufficient experience in supplying, installation and commissioning of such test bed equipment. Preference may be given to the manufacturers having their authorized repair & service centre (s) in India

1	Tender No.	F.No.01/12(01)/2015/NISE/PV(OTF)
2	Details of equipment	Test Bed Monitoring Equipment include PV scanner, multiplexer, automatic whether station, industrial pc and load resistor network
3	Quantity	One Set to be commissioned at the Institute Campus at Gurgaon.
4	Description of monitoring equipment	Specifications given in paragraph 3

**2. SCOPE OF CONTRACT:**

Design, Supply, installation and commissioning of a Test Bed Monitoring Equipment at NISE Gurgaon as per specification given below at item 3.

**3. SPECIFICATIONS OF TEST BED MONITORING EQUIPMENT:**

**1. I-V Curve Analyzer**

- Measurement Range
  - o Voltage- 200V or above
  - o Current – 16Amps
- Accuracy - +/-0.2% fsr
- Maximum sampling rate for one current-voltage data pair – 50 k sample/sec
- Measuring time – between 2-500ms
- Maximum number of data point for one I-V curve to be specified
- User interface – controlled directly through PC by custom built software
- Power supply – Grid-plugged power supply or rechargeable batteries
- PC port – Through USB
- Meteorological adaptor for additional meteorological sensors – 8 module with one ambient, 2 nos. Pyranometer (GHI & In-plane).
- IV-curve should have a provision/computability to work with multiplexing unit for measurement of IV-curves for several technologies without changing the cable.
- Control software for I-V tracer
- Charging unit for battery
- Manual, transportation case
- Eight numbers of Pt100 sensors (leaf type) for measurement of module surface temperature (10mtr length)

**2. Multiplexing Unit for I-V tracer:**

- Minimum number of channels – Eight with two switching for each string via special high voltage DC relays.
- Maximum string voltage – 200V
- Maximum string current – 16 Amps.
- Compatible with I-V tracer and possible to program through PC.

### **3. Industrial Computer:**

- Should be able to operate 24x7hrs.
- Compatible with all software's relevant to I-V tracer, multiplexer and AWS.
- PC should have additional two serial port and four USB port.
- External hard-disk for data storage (with UBS port).

### **4. Load Resister:**

- During the period of no measurement performed, modules string connected to load resistors to keep the module strings under load condition. This should be external to PV-KLA cabinet with proper heat dissipation.

**Note:** Necessary spares for 5 years of operation with min. 1 sets of necessary spares to be kept at each test bed site.

### **4. EARNEST MONEY DEPOSIT (EMD)**

A sum of Rs.10,000/- should be submitted as Earnest Money Deposit (EMD) along with the technical bid in the form of bank's demand draft drawn in favor of "National Institute of Solar Energy" payable at Gurgaon. The EMD of the accepted tender will be retained as Security Deposit and the EMD of other unsuccessful bidders would be refunded.

### **5 RATES:**

The rates should be quoted specifically on the following lines: Firm and final cost of a Test Bed Monitoring Equipment at NISE, Gurgaon with the above specifications and features including duties, taxes and freight to IGIA, New Delhi, if any applicable, should be indicated separately and clearly. However, certificate towards Customs Duty exemption in terms of Govt. Notification No. 51/96-Customs dated 23 July 1996 and Central Excise exemption in terms of Govt. Notification No. 10/97-Central Excise dated 1 march, 1997, if necessary will be issued to the supplier by NISE, provided the import is direct in the name of Deputy Director General, NISE and also the payment is in foreign exchange. Cost involved towards installation and commissioning at four different sites, and Cost towards the training of customer's personnel should be indicated separately. Cost involved towards options, accessories, spares and consumables for operating the system at least for five years should be mentioned separately. A list of spares needed for five years trouble free operation should be attached along with its cost/prices.

### **6. DELIVERY PERIOD:**

Test Bed Monitoring Equipment at NISE, Gurgaon in all respects as per above specifications, in single consignments should be delivered at the site/consignee within 2 months from the date of issue of confirmed supply order/date of opening of Letter of Credit.

### **7. INSPECTION:**

The supplier should satisfy himself/ herself that Test Bed Monitoring Equipment and its spares, if any, fully conforms to the specifications by carrying out complete pre-inspection of each component before dispatch. Final inspection will be carried out in the presence of firm's representative/Indian agent when the consignment arrives at National Institute of Solar Energy, Faridabad-Gurgaon, Gwal Pahari, Gurgaon 122003, Haryana, India.

### **8. CONSIGNEE:**

Director General / Store Incharge, National Institute of Solar Energy, Gwal Pahari, Gurgaon Faridabad Road, Gurgaon 122003, Haryana, India. The port of destination is Indira Gandhi International Airport, New Delhi, India.

### **9. GUARANTEE/WARRANTY:**

Systems/Spares supplied should be covered by standard terms of warranty for a period of 12 months from the date of installation or 18 months from the date of delivery, whichever is earlier for manufacturing defects/performance. During this period, the company should replace/repair the defective parts. The entire expenditure including freight, if any, for such replacement shall be borne by the firm.

### **10. PAYMENT TERMS:**

Payment will be considered against irrevocable Letter of Credit on presentation of the following documents without discrepancies:

- Clean Master Airway Bill/House Airway Bill in original.
- Commercial invoice in quadruplicate.
- Packing list in duplicate.
- Manufacturer's certificate of warranty/guarantee and the inspection and calibration report.
- Certificate of origin.
- Copy of the negotiable bill of binding.
- Address/Tel/Fax number of your banker.

#### **11. PENALTY:**

The supplier shall supply the stores in accordance with the particulars as expressly specified at the time/times and at the place/places only. The time for and the date of the stores stipulated shall be deemed to be the essence of the supply/work order. If the supplies are not completed within the period prescribed, the supply order will be liable to be cancelled at the risk and cost of the contract besides forfeiting the Earnest Money Deposit. Should the supplier fail to deliver the systems within the period prescribed for such delivery/completion or at any time repudiate the contract before the expiry of such period, the competent authority or the purchaser may without prejudice to his right to recover the damages for breach of the contract/order.

If for any reasons the contractor is unable to adhere to the contract delivery dates, he may seek extension in delivery/completion dates well in time by sending a request in writing in this regard to the office issuing the contract/supply order. The purchaser reserves the right to allow the extension of delivery period subject to such conditions as he may think fit. However, the decision of the purchaser shall be final and binding.

#### **12. DOCUMENTATION:**

The supplier will provide drawings, manuals, installation, operation and maintenance, troubleshooting, circuit diagram etc. of Test Bed Monitoring Equipment to be supplied under the order. The supplier will also supply detailed circuit diagram and installation configuration of the solar inverters including Do's and Don'ts and training material in English.

#### **13. DISPUTES:**

In case of any dispute the decision of Director-General, National Institute of Solar Energy will be final and binding on both parties. Further dispute, if any will be settled in the Court of Law at New Delhi jurisdiction only.

#### **14. IMPORT LICENSE:**

No import license is required for this import as it is being made under OGL for research and development purposes. However, the supplier will be fully responsible for obtaining the required authorization of export from country of origin, if necessary.

#### **15. COMPETENCE:**

The supplier should have sufficient experience in manufacturing of Test Bed Monitoring Equipment Catalogues and company profiles should be enclosed along with the Technical bid.

#### **16. VALIDITY:**

Tenders should be valid for 180 days from the date of opening.

#### **17. SUBMISSION OF TENDERS:**

Sealed tenders are to be submitted in two parts i.e. Part-I containing Technical competence/literature along with Demand Draft for EMD, and Part-II containing only commercial invoice in a separate sealed envelope, super-scribed as commercial bid. Both the technical and commercial envelopes should be kept in a large size sealed envelope super-scribed as tender for "Test Bed Monitoring Equipment" due for opening on 17<sup>th</sup> December, 2015 and addressed to: Director General, National Institute of Solar Energy, Gurgaon – Faridabad Road, Gwal Pahari, Gurgaon 122003), Haryana, India.

#### **18. IMPORTANT DATES:**

- a. Closing time and date of receipt of tenders at 1.00 P.M. on 17<sup>th</sup> December, 2015
- b. Opening of Technical Bids at 03.00 PM on 17<sup>th</sup> December, 2015
- c. Opening of Financial Bids of technically qualified bids will be tentatively after one week i.e. 23<sup>rd</sup> December, 2015 at 2.30 PM. In case of any delay the same will be informed to the bidders.

**(Dr. O.S. Sastry)**  
**Director General**

