

DEPARTMENT OF CHEMISTRY
INDIAN INSTITUTE OF TECHNOLOGY - DELHI
HAUZ KHAS, NEW DELHI - 110016

Dated: 10th July 2012

NOTICE INVITING QUOTATIONS

Sub: Purchase of solar cell measurement system

Sealed quotations in *separate envelops of technical and commercial bid* kept in a one sealed outer envelope are invited for purchase of a **solar cell measurement system** as per specifications given below. Your sealed quotation should reach latest by 5 PM on 24th July 2012 to **Dr Sameer Sapra, Department of Chemistry, Indian Institute of Technology – Delhi (IIT Delhi), Hauz Khas, New Delhi - 110016**. Your quotation should be superscribed “Purchase of solar cell measurement system due on 24th July 2012”.

SPECIFICATIONS

Solar cell measurement system with the following specifications

A solar simulator with

- i) ~150 W Xe lamp. Typical lamp life: 1500 hours.
- ii) Changeable AM 1.5G filter.
- iii) Power supply.
- iv) Working distance ~20 cm.
- v) Sun Irradiance: 100 mW/cm² with 3 cm uniform illumination at 20 cm distance.
Uniform illumination accessories must be provided
- vi) Spectral Match: ASTM: Class A; IEC: Class A; JIS: Class A.
- vii) Beam turner to direct the beam from the simulator to the test station must be supplied.

An IV test station with the following specifications

- i) Should be able to hold the solar cells without soldering or making paste contacts on the cell. Preferably a pressing pin should be used to make contacts.
- ii) Should have less than 1 cm pin separation for uniform current density.
- iii) Four point IV curve measurements for 10 x 10 mm or larger cells upto 40 mm x 40 mm. Temperature monitoring included, allows STC correction

Software

- i) For solar cell IV tracing and analysis. It should be IEC standards compliant.
- ii) Should be able to completely control Keithley source meters.

Reference solar cells

- i) Two standard reference solar cells with calibration certificate and data for V_{OC} , I_{SC} , J_{SC} , I_{Max} , V_{Max} , P_{Max} , FF & Efficiency from a national meteorological institute or a lab accredited with ASTM E927-05, IEC/ISO 17025.
- ii) Should be measurable on the IV test station

TERMS AND CONDITIONS

1. Please submit the TECHNICAL and FINANCIAL bids in separate sealed envelopes. Mark the two envelopes clearly as "Technical Bid" and "Financial Bid". Both the sealed envelopes should be sent in a single sealed envelope, clearly marked as "Quotations for Purchase of solar cell measurement system due on 24th July 2012". The quote should reach the following address on or before 24th July 2012, upto 5 PM.

Dr. Sameer Sapra
Department of Chemistry
Indian Institute of Technology Delhi (IIT Delhi)
Hauz Khas, New Delhi-110016

2. Please quote prices at FOB New Delhi, inclusive of installation charges. CIP charges should be quoted separately.
3. The quotations should be in the currency of the country of origin as well as Indian Rupees wherever possible and should be valid for at least three months.
4. Please attach all the technical literature and a list of similar installations done in India.
5. Standard warranty details (minimum 3 years) should be provided.
6. Payment should be through irrevocable letter of credit.
7. If the quote is being submitted by the representative of the Principals/manufacturer themselves, a valid Agency ship/Dealership Certificate authorizing the agent to quote to IIT Delhi on behalf of the Principals should be enclosed.
8. Complete set of manuals for the operation of equipment should be given.
9. Clearly specify the installation requirements—such as space, power, frequency, environment (Temperature and humidity) etc.
10. If the items quoted are proprietary in nature, please enclose proprietary certificate from the principals stating "certified that _____ is a proprietary item M/s. _____ and no other manufacturer makes these items.
11. If the bidder is an Indian agent, the agency certificate should be enclosed.
12. Please produce compliance certificate for the specification.

13. Training should be provided free of cost.
14. Delivery period should be specifically mentioned and should be as small as possible.
15. The products will be used for educational purposes. Hence any applicable institutional discounts should be offered and stated.
16. SALES TAX : This Institute is not exempted from the payment of Sales Tax/Service Tax/VAT. The rate (i.e. percentage of Sales Tax should be clearly indicated included or excluded) wherever chargeable.
17. Institute reserves the right to accept or reject any or all the quotations without assigning reasons thereof.