INVITATION TO QUOTATION

18th May 2016

The Centre invites Quotations for the item detailed below.

SL No	ENQUIRY NO & DATE	Description of Items
1)	CeNS/2016-17/SA/LP35 Date: 18/05/2016	**SOLAR SIMULATOR** (Detailed Specification in Annexure)

NOTE:

(a) The sealed Quotations containing **two separate sealed envelopes**, clearly marked as "Techno-Commercial Bid and "Price Bid along with Compliance Statement should be submitted on or before 31 May 2016 by 5.00PM through Speed Post / Courier / Registered Post**.**

(b) The quotation should be addressed to the Director, Centre for Nano and Soft Matter Sciences PB No: 1329, Prof. U.R Rao Road, Jalahalli, Bangalore-560013.

(c) Discount if any should be clearly mentioned.

(d) Delivery schedule, warranty details must be clearly indicated.

(e) Taxes & duties should be separately shown.

(f) Quotations should be valid for a minimum period of **3 months** from the date of issue.

(g) **Terms of payment:**

i) For Imported Equipment: 90% through Letter of Credit with usance period of 30 days on proof of arrival of consignment. The balance 10% payment will be released after expiry of the applicable Warranty period or on submission of Performance Bank Guarantee for an equivalent amount (10% of the Invoice value), having validity up to three months from the date of expiry of the applicable Warranty period.

ii) For Indigenous Equipment: the payment in INR shall be made through NEFT/RTGS after successful installation and against submission of performance Bank Guarantee equal to 10% value of the equipment, valid for the period of warranty. Complete details such as the bank account number/IFSC/SWIFT/Bank Address, etc. should be provided along with the price bid.

(h) **Opening of bids**: The quotations opening date will be informed in the website: www.cens.res.in/tender

(i) Any firm representing the actual supplier should submit authorized dealership certificate in original from the principal company.

(j) **Banking charges:** All banking charges applicable outside India will be on suppliers account.

(k) **Guarantee and replacement:** The Supplier shall guarantee that the Items/Equipment supplied shall comply fully with the specifications laid down, for material workmanship and performance. The Guarantee should be as mentioned in the specification.

(l) The Centre reserves the right to accept or reject any quotation or part thereof without assigning any reasons.

(m) The Sealed envelope containing the two separate Techno-Commerical bid and price bid should be superscribed with " quotation for CeNS/2016-17/SA/LP35"

(n) Quotations received after the due date shall not be considered.

(o) The Centre is exempt from paying Central Excise of Customs duty on purchase under the Govt. of India Notification No. 11/280/1993-TU-V dated 29 April 2016.

Yours sincerely

Sd/-
Administrative Officer

ANNEXURE

ENQUIRY NO : CeNS/2016-17/SA/LP35

Technical specifications of Solar Simulator with I-V curve measurement system

• Class AAA solar simulator (for all the spectral match, non-uniformity of irradiation and temporal instability of irradiance) certified by all the standards, viz. IEC, ASTM and JIS suitable for solar cell testing system.

• The system should have illumination housing, black finish to reduce stray light, integrated shutter and power supply, irradiance monitoring, temperature sensors and safety interlocks (Over temperature warning, shutter status indicator, lamp status indicator), Forced air cooling, External lamp alignment while lamp on,

• Air Mass: AM 1.5G standard

• Area of illumination: 2 x 2 inch

• Power output: 100 mW/cm^2

• Working distance: ~ 5 inch or more

• Lamp power: 100 to 150 W with a line regulation 0.01 %

Lamp life: 1000 Hrs

• Spare lamp: 1 No.

• Spectral range: 300 to 1100 nm

• I-V testing system with a current range of ~ 1 μA to 1 A with 0.5 % accuracy, voltage range ~ 1 mV to 20 V with 0.05 % accuracy.

• Computer with appropriate software to measure open circuit voltage V_{OC}, short circuit current I_{SC}, V_{max}, I_{max}, P_{max}, efficiency, fill factor, R_{SC}, R_{OC}, R_{shunt}, P & N type without connection change, Calculation of Series Resistance as per IEC 60891, Curve Fitting to Equivalent Diode Models, Curve Correction to STC, Shutter control through software, Cell sorting and Advance Signal Filtering for light fluctuations and etc.

• The software should generate I-V curves as tab delimited data and report I-V curve plot for fast data overview

• Vacuum test fixture for I-V measurement on substrates of size 2 x 2 inch, electrical contact probe kits with X-Y joysticks and additional probe tips (4 nos.). The test fixture should include a provision to mount an irradiance monitor.

• NIST/NREL certified 2 x 2 cm Si based reference cell for calibration.

• Warranty for 2 years

• Onsite Training

• Service center/technical support should be in India

• Installation of a similar/equivalent model in last five years in India

• Price should be inclusive of shipping CIF to Bangalore