



## CORRIGENDUM

REFERENCE NO. : - P/NC/65/SG/SO(SB)/OTE/22-23/3248

DATE: 16/11/2022

NAME OF EQUIPMENT: "SUPPLY, INSTALLATION, COMMISSIONING, DEMONSTRATION & TRAINING OF IQE IPCE/QUANTUM EFFICIENCY MEASUREMENT SYSTEM".

NOTE: The Bids must be submitted in the Central Public Procurement Portal (URL:<https://etenders.gov.in/eprocure/app>) only. Manual/Offline bids shall not be accepted under any circumstances. Bidders should quote in INR only.

CONSEQUENT TO THE PRE-BID MEETING HELD ON 04/11/2022, THE REVISED SPECIFICATION IS GIVEN BELOW:-

### Incident Photon to Current Conversion Efficiency/Quantum Efficiency Measurement System

The instrument will be used for the measurements of Quantum efficiency, QE / Incident Photon to Current Conversion Efficiency, IPCE of Photo-electrodes or Solar Cells or photoactive devices. The detailed technical specification are given below:

1. **Tunable Light Source:** Xenon lamp/LED
  - 1.1 Spectral response range: 400 nm to 1000 nm
2. **Monochromator:** Software-controlled monochromator
  - 2.1 Czerny-Turner/Ebert-Fastie design with adjustable band pass
  - 2.2 Wavelength range:  $\leq 400$  nm to  $\geq 1000$  nm
  - 2.3 Wavelength resolution:  $\leq 2$  nm
3. **Optical Chopper:**  $\leq 10$  Hz to  $\geq 100$  Hz
4. **Lock in Amplifier:**
  - 4.1 Frequency range:  $\geq 1$  mHz to  $\geq 100$  Hz
  - 4.2 Sensitivity: 2 nV
  - 4.3 Gain drift:  $\pm 100$  ppm/ $^{\circ}$ C
5. **Reference Detector:** Broadband pyroelectric detector / Si detector /Si photodiode
6. **Light tight sample chamber:** Sample up to 5 cm  $\times$  5 cm
  - 6.1 Bias voltage: 0-10 V
7. **Calibrated Reference Cell:** Silicon based reference cell for calibration of light source (Spectral range: 400 nm to 1000 nm)
8. **The accessories unit:** Suitable holder, adapter and stage for data measurement of thin film samples should be supplied
9. SMU/Programmable power supply/Potentiostat
10. **Software Support:** User-friendly Microsoft Windows compatible software for instrument operation, data acquisition/analysis should be supplied. Software to be capable of measurement of spectral response, IPCE, QE, automated spectral response, spectral calculation.
11. **Data Acquisition Station:** Branded Desktop/Laptop (CPU with Intel Core i5, 2.50 GHz, OS Windows 10- compatible with instrument operational software, 8 GB RAM, HDD 500 GB, compliant display adapter, 19 inch LED Flat Panel Monitor, Six nos. of USB ports for instrument operation, a colour printer.
12. **Power supply for the instrument:** It should be safely operable on 230V $\pm$ 5% VAC, 50Hz, Single phase. Suitable UPS should be supplied for the instrument.

**13. Installation, Commissioning and Training:**

13.1 Installation and commissioning for the Quantum Efficiency Measurement System should be done by the party at CSIR-CGCRI, Kolkata.

13.2 **Training required:** 3-5 days for 4 persons at CSIR-CGCRI, Kolkata.

14. Manuals for operational and preventive maintenance with trouble shooting should be supplied with the equipment.

15. **Warranty:** One year comprehensive warranty after successful installation and commissioning

16. **Delivery period:** 18 to 20 weeks from the date of purchase order.

Deadline for Submission of Bid and Opening of Bid is remain unchanged as given in CGCRI Tender No. P/NC/65/SG/SO(SB)/OTE/22-23/3248 dated 21/10/2022 which is as follows:-

Bid Submission End Date & Time	01/12/2022 upto 3.30 PM(IST)
Bid Opening Date & Time	02/12/2022 upto 3.30 PM(IST)

The above amendments shall amount to amendments of the relevant terms of our Bid Document for CGCRI Tender No. P/NC/65/SG/SO(SB)/OTE/22-23/3248 dated 21/10/2022.

All other Tender terms and conditions remain unchanged.

**Bidders should quote only in INR. Bidding is open to only Class I /Class II Local Bidders.**

24/11/2022  
(A.K.Pandey)  
Stores & Purchase Officer  
FOR & ON BEHALF OF CSIR

\*\*\*\*\*#

अंजनी कुमार पाण्डेय/Anjani Kumar Pandey  
भण्डार एवं क्रय अधिकारी/Stores & Purchase Officer  
सीएसआईआर - केन्द्रीय फॉच एवं सिरेमिक अनुसंधान संस्थान  
CSIR - CENTRAL GLASS & CERAMIC RESEARCH INSTITUTE  
196, राजा एस. सी. मुल्लिक रोड / 196, Raja S. C. Mullick Road  
कोलकाता / Kolkata- 700 032