

**INTER UNIVERSITY ACCELERATOR CENTRE  
ARUNA ASAF ALI MARG, POST BOX NO: 10502  
NEW DELHI-110067**

**NOTICE INVITING TENDER**

**NO. IUAC/NIT/12/PKK/2017-2018**

Name of the work: Supply of **electron beam based thin film coating system with accessories**

Tender Cost: **Rs. 500/- by cash/DD (Exempted if down loaded)**

Earnest Money Deposit (EMD): **Rs. 80,000/-** (Bidder registered with NSIC/SME and foreign bidders quoted directly are exempted from paying EMD).

**Last Date and Time of Submission of Tender:** 14/12/2017 at 3.00 p.m.

**Date & Time for opening of Tender:** 14/12/2017 at 3.30 p.m.

*(Technical bid part-A)*

**Date & Time for opening of price bid:** Will be intimated later on to technically qualified bidders.

*(Price Bid Part B)*

**Address for submission of tender:** Administrative Officer (S&P),  
Inter-University Accelerator Centre (IUAC)  
Aruna Asaf Ali Marg, Post Box: 10 502  
New Delhi - 110067

**Place of Opening of the Tender:** Inter-University Accelerator Centre

**Note:** Any change/amendment/corrigenda etc. to this NIT before opening the tender will be available in IUAC webpage: [www.iuac.res.in](http://www.iuac.res.in) only. Bidders are advised to check the website before final submission.

## **GENERAL CONDITIONS OF TENDER:**

**I. Submission of Tender:** Tenders should be submitted in sealed envelope in two Parts separately, i.e. "Technical bid" (Part-A) and "Price bid" (Part-B). Both the parts should be further sealed in an envelope super-scribing NIT No & name of work, due date for opening, bidders name & address. The tender duly filled in may be sent to above mentioned address either by post or hand delivered in the **tender box kept in the area near west side entrance, after ensuring that due entries are made in the register kept at the counter. It should not be handed over to any employee of the Centre. No tender shall be accepted later than the time schedule specified above.**

**II. Technical Bid (Part-A) :** In this, the bidder should submit his company profile, organizational setup, credentials, and copies of successfully executed work orders for reputed laboratories/institutes during the last three years. No deviations in respect of NIT conditions are acceptable. **The bidders are required to attach entire NIT (except for the price bid part) duly signed & stamped as a token of acceptance to the NIT conditions with this bid. The following specific conditions are essential for pre-qualification:-**

- a) Bidder must be the principal suppliers or their authorized agents.
- b) They should have some history of supply of electron beam based thin film coating system in any Institute or university in India (a list of such users should be attached).
- c) Service/Technical support should be available in India.

Entire NIT (except Price bid) duly signed & stamped by the bidder.

No deviations from the technical specifications listed above will ordinarily be permitted. However, the IUAC reserves the right of final decision regarding acceptable technical specifications.

**III. Price Bid (Part-B):** In this bid, the bidder is required to quote the price of item in FOB and CIF, Delhi basis, for the works mentioned in the scope of work & technical specifications. The bidders should quote unconditional rates, neatly written without any overwriting and duly signed & stamped on all pages.

**IV. Earnest Money Deposit (EMD): Rs. 80,000/-** (Bidder registered with NSIC/SME and foreign bidders quoted directly are exempted from paying EMD).

EMD of Rs. 80,000/- has to be enclosed along with the Technical bid (Part-1). The EMD shall be only in the form of **Bank Draft** in the name of "**Inter-University Accelerator Centre**" payable at "**New Delhi**". No cheque/cash shall be accepted as EMD. EMD of technically disqualified bidders will be returned within 30 days from the date of evaluation of the technical bids. EMD of successful bidder will be released on successfully delivery of the electron beam based thin film coating system with accessories at IUAC Delhi. Tender received without earnest money from the bidder other than NSIC/SME and foreign bidder will be rejected.

**V. Completion time:** The offer should be accompany a realistic time chart for the completion of jobs. The time will start after receiving the design drawing from IUAC. The vendor shall convert the design drawings into manufacturing/fabricating drawing and complete it within 30(thirty) days. IUAC personal will review the fabrication drawing and necessary approval will be given to the vendor after thorough discussion/meeting. The vendor needs to complete the fabrication job and it needs to be ready for delivery within 120 days after receiving the final approval of fabrication/manufacturing drawing from IUAC personnel. IUAC personnel will inspect all the components at vendors' site before delivery. Any delay as per clause (VI) of NIT. Under the force-majeure condition or any delay due to reason beyond control of the bidder, IUAC may grant suitable time extension for which the supplier has to request along with the justification/reason well in advance to the IUAC for approval within any prejudice to price escalation. No time extension request shall be consider after expiry of completion period/contract. The decision of the IUAC, will be final and binding on the bidder/supplier.

**VI. Liquidate damages:** In case of work is delayed beyond the specified completion period for reason attributable to the bidder, deduction on account of liquidated damages @ 0.5% of the order value per week will be deducted subject to a maximum of 5% of the total work.

**VII. Validity of Tender:** Tender shall be valid for our acceptance without any change in rates and NIT conditions for a period of **90 (ninety)** days from the date of opening of price bid.

**VIII. Escalation:** No escalation over and above items rates quoted by the bidder shall be paid during the execution of contract.

**IX. Scope of Work:** *Supply of electron beam based thin film coating system with accessories at IUAC.* Detailed specifications are enclosed with this NIT as Annexure A.

**X. Deviations:** No deviation from the stipulated terms and conditions will be allowed. However, bidder may suggest deviation conforming to the requirement stimulated in technical specification. Tenders should be unconditional.

**XI. Correspondence:** All the correspondence in respect of tender/contractual obligation shall be made to A.O.(S&P), Inter-University Accelerator Centre, Aruna Asaf Ali Marg, New Delhi-110067 India

**XII. Terms of Payment:** The payment shall be made through Letter of Credit. 90 % payment shall be through L/C against shipping documents and 10 % on completion of guarantee period of one year. However, 100 % payment may be released, if the supplier provides a Performance Bank Guarantee of equivalent amount of 10 %.

**XII. Guarantee/Defect liability period:** Minimum One year.

**XIV. Testing:** Original copies of the all test report /certificates should be provided to IUAC.

**XV. Documents and Manual:** All the mechanical, electrical and electronics drawing and circuit details of the supply items should be provided. Hard copies of two sets of the operation and maintenance manual should be provided without additional cost.

**XVI. IUAC reserves the right** to reject any or all the tenders in full or in part without assigning any reasons whatsoever, and the decision of the IUAC in this regard will be binding on all the bidders. Tenders not complying with any of the provisions stated in this tender document are liable to be rejected. **Director, IUAC reserves the right to accept or reject any tender without assigning any reason and does not bind himself to accept the lowest tender.**

**XVII. Any dispute arising out of this contract will be subjected to jurisdiction of New Delhi/Delhi.**

Accepted

(Signature of bidder)

Place:

Date:

Name:

Seal:

Note: - Entire NIT (except price bid) is to be attached with "Technical bid (Part-A)" duly signed & stamped by the bidder

## ANNEXURE-A

Supply of “**electron beam based thin film coating system with accessories at IUAC**” as per the following technical specifications,

### **SPECIFICATIONS of ELECTRON BEAM BASED THIN FILM COATING SYSTEM decided as follows:**

#### **1) Ultra High Vacuum (UHV) Chamber**

Appropriate sized stainless steel 304 vacuum chamber with a tight leak rate better than  $1 \times 10^{-10}$  liter/sec and ultimate pressure better than  $1 \times 10^{-8}$  mbar with following ports/feedthroughs for: (i) turbo-molecular vacuum pump, (ii) e-beam assembly and its accessories (iii) two ports for pressure gauges (iv) two air inlet and outlet ports (v) 2 viewing ports, (vi) port for high temperature sample holder, (vii) port for thickness monitor (viii) port compatible for load lock chamber (ix) port for venting and (x) 2 or more spare ports. Vacuum chamber should be compatible for baking at  $150^\circ \text{C}$  or better.

#### **2) Substrate holder cum heater**

- A) Facility for heating substrate at least  $500^\circ \text{C}$
- B) Thermocouple
- C) Programmable PID temperature controller ( $\pm 5^\circ \text{C}$  over  $2 \times 2 \text{ inch}^2$  area)
- D) Heater and sample holder should have hot area of at least 2” diameter
- E) Shutter with UHV compatible rotary feed through for the sample holder.

#### **3) Thickness monitor and its accessories by Inficon and equivalent product**

- A) UHV compatible quartz crystal sensor head and monitor/controller for in-situ thickness monitoring.
- B) Crystal pack of 50 numbers
- C) Electronics module for thickness monitoring and display with software. It should be capable of storing multiple values of density and acoustic impedance in the memory for repeated use
- D) It should have a thickness resolution of 0.1 nm.

#### **4) Electron beam assembly and its accessories by Telemark, MDC and equivalent product**

- A) Electron beam gun with Four Pockets (volume: 2 with 2cc and 2 with 4 cc)
- B) Power supply: 8 kW or better
- C) Water chiller with flow switch interlock
- D) Compatible high voltage feedthroughs, octal feed through and grounding probe, crucibles for 4 pockets
- E) Molybdenum liner with each pocket for purpose of isolation

#### **5) Evaporator electrode assembly for two materials**

- A) Water cooled electrodes for 150-200 amps for 2 boats/filaments

#### **6) Vacuum Pumps by Edwards/Pfeiffer/Varian make and equivalent product: Turbo molecular pump having speed of 500 lit/sec or above and dry vacuum pump having capacity of at least $10 \text{ m}^3/\text{hr}$**

- 7) **Vacuum gauges:** Full range gauge to measure the pressure from atmosphere to  $1 \times 10^{-8}$  mbar or better
- 8) **Vent valve** for releasing vacuum using dry gas
- 9) **Isolation valve between vacuum pumps.**
- 10) **Right angle isolation valve** to connect the backing pump with turbo molecular pump.
- 11) All the vacuum components should be compatible with ultimate vacuum ( $\sim 1 \times 10^{-8}$  mbar)
- 12) Rack/Frame for mounting the system
- 13) Supplier for the vacuum pumps and gauges should provide services either at IUAC or in India.
- 14) **Optional Items**
  - 1) **Thermal evaporation materials:**
    - Silver (100 gm), Gold (10 gm), Palladium (100 gm), Chromium (100 gm)
  - 2) **Evaporator electrode assembly** for two materials
    - A) Compatible variac, transformer and cables for evaporation of two materials simultaneously
    - B) Spare boats= 20 no. and filaments= 20 no.
  - 3) **Loadlock arrangement** for loading 2" circular sample
    - A) Appropriate isolation valve between loadlock and main chamber
    - B) Sample transfer assembly.
    - C) Vent port with vent valve

Accepted

(Bidder's Signature)

Place:

Date:

Name:

Seal: