Tender notification for the procurement of a "thin film deposition system" from domestic (India-based) manufacturers

Ref: PHY/SMY-547/2023-24 Date: 17/10/2023

This is a notice inviting domestic tenders for the procurement of a "**thin film deposition system**". The required technical details including terms and conditions are provided below. The last date of reaching the quotation to us is mentioned below.

With respect to this tender, the rules laid out by the Government of India in order No. P45021/2/2017-PP (BE-II) issued by the Public Procurement Section, Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated04th June 2020, will be followed. Per this order, the government has defined a 'Class-1 local supplier' as "a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%". A 'Class-2local supplier' is "a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%". Only 'Class-I' and 'Class-II' local suppliers are eligible to participate in this open domestictender. Any 'Non-local supplier', i.e., "a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%" is ineligible to participate in this tender.

Specifications:

Serial number	Description	Quantity
1. Main chamber	a. 14-16"-inch cylindrical/spherical chamber for sputtering with load lock to create a vacuum of 5x 10^{-7} torr or better with all CF ports for turbo, sputter guns, load lock, heater flange, and pressure gauges. b. The main chamber should have ports for 4 number of 2" dia sputter guns in confocal arrangement. c. Out of these four ports (point b), two sputter sources with motorized shutter (for 2" dia target) should be provided now. Two ports will be left as blank ports currently. d. Provision for N2 gas vent [nitrogen cylinder will be provided by the user]. e. Sample holder with a pneumatic shutter. It should be possible to heat the sample (2" dia sample) to 800^0C or higher with PID controller. PID programmable controller and power supply for heater should be provided. f. Motor controlled rotation of the sample holder (max speed atleast 10 RPM) and manual updown movement of the holder by at least 25mm should be allowed.	1 number
2. Load lock	a. Load lock for 2" dia sample with magnetic transfer rod for sample and target exchange to and from the chamber. The load lock should have a port for connecting Hipace 80 turbopump, which should be provided as a blank currently as the turbo pump	1 number

	will be connected in future. Currently, it will be pumped by the dry backing pump of the main chamber. Appropriate venting arrangements using nitrogen gas should be provided [nitrogen cylinder will be provided by the user]. b. Keep provision for connecting a mass flow controller for future. c. A manual gate valve should be there to separate the chamber from load lock. d. Two blank ports for 2 sputter sources (for 2" dia). [sputter sources will be put in future] and viewports should be present in loadlock. e. Heating sample upto 300 deg C with PID [quote as optional item]	
3. RF power supply	RF power supply 300W with auto matching network and cables (Seren USA make or RFVII USA or Barthel Germany) for sputter source (provide the price separately)	1 number
4. DC power supply	DC supply 500W (ADL Germany make or Prevac) for sputter source (provide the price separately)	1 number
5. Digital Mass flow controller	Digital Mass flow controller (Alicat USA make) with 30 gases pre-loaded (0-100 SCCM flow range) (provide the price separately) for the main chamber.	3 number
6. Pumping system	a. The user will provide a turbo pump with DN-100 CF flange with controller, splinter shield, cooling fan, vent valve, cables etc for pumping the main chamber. The vendor needs to connect this pump to the deposition chamber in IISc. b. The vendor should quote a dry backing pump (Pfeiffer make) with pumping capacity of atleast 10 m^3/hr along with Pirani gauge and cold cathode gauge (IKR 251). (provide the price separately) c. A pirani gauge for the load lock. d. This dry pump will be used as backing of main chamber turbo pump and pumping the load lock as well. e. Please quote hi-space 80 turbo pump with a dry backing pump and cold cathod guage (IKR 251) for the load-lock as optional item (provide the price separately)	1 1 1
7. Water chiller	a. PID programmable water chiller (1KW) with water manifold, flow switch with appropriate flow rate to perform sputtering. b. There should safety interlock like water flow switch to prevent sputtering without the required	1

	water flow.	
8. Baking arrangement	The Chamber can be baked to 170 degrees with baking tapes etc. The baking tapes, power supply etc. should be included in the quote.	1
9. Instrumentation rack	Proper instrumentation rack should be provided to mount the system and all components	As required by the design
10. Accessories	The vendor should specify and quote required accessories to run the system.	

Other requirements:

1. Drawings need to be sent for approval before the start of manufacturing.

2. Installation should be performed on site. Please include transportation charges within the price bid.

3. The vendor/company should provide after sales service, full support, and repair if required.
4. Warranty: 1 year [onsite repair is preferred] from the date of installation. Please quote for extending the warranty period for an additional one (i.e., total of two) as well as two (i.e., total of three) years.

Terms and conditions:

1. The Bidder should belong to either Class-1 or Class-2 suppliers distinguished by their "local content" as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter. a) Class-1 supplier: Goods and services should have local content of equal to or more than 50%. b) Class-2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.

2. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.

3. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to the Class-1 supplier.

4. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.

5. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.

6. The bid should be submitted in a two-cover system, i.e., technical bid and commercial bid separately in sealed covers. The technical bid should containall commercial terms and conditions, **except the price**.
7. The technical bid must contain a point-by-point technical compliance document. The

technical proposal should contain a compliance table that should describe your compliance in a "yes" or "no" response against each specification. If "no" the second column should mention the extent of the deviation. The third column should state the reason for the deviation, if any. The fourth column can be used to compare your tool with that of your competitors or provide details as requested in the technical requirement table below. **Tender documents without technical compliance documents will not be considered.**

8. In the commercial bid, the price should be inclusive of all discounts.
9. The vendor/company should have a track record of having previously at least **five similar equipments [deposition chamber connected with a load lock]** in India (please furnish the details along with the base pressure achieved in the main chamber).
10. The vendors quoting should ideally be registered with IISc, and the quote should ideally carry the vendor registration number in the bid.
11. The covering letter in the bid should clearly mention whether the vendor is a 'Class I' local supplier or a 'Class II' local supplier, failing which the vendor willbe automatically disqualified. The vendor should indicate the percentage of thelocal content and provide self-certification that the items offered meet the minimum local content requirement. They should also give details of the location(s) at which the local value addition was made.
12. Lead time should be clearly mentioned in the technical and commercial bids.
13. The offer shall be valid at least 90 Days from the date of opening of the commercial bid.
14. The vendor/company should have existence for a minimum of 3 years. (EncloseCompany Registration Certificate).
15. The vendor/company must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere.
16. The quotations should be on FOR-IISc Bangalore basis in INR only.
17. The Institute reserves the right to accept or reject any bid, or to annul the bidding process and reject all bids, at any time prior to the award of contract without thereby incurring any liability of the affected bidder or bidders.
18. Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:
    1. To accept OR reject lowest tender or any other tender or all the tenders.
    2. To accept any tender in full or in part.
    3. To reject the tender, offer not confirming to the tender terms.
19. The tender documents can be sent at the following address by post or in-person, and the document should reach us on/before **9th November 2023**.

    The Chairman
    Department of Physics
    Indian Institute of Science,
    Bangalore 560012, Karnataka, India

    Attention: Prof. Srimanta Middey

    [email: smiddey@iisc.ac.in]