Indian Institute of Engineering Science and Technology, Shibpur

(Formerly Bengal Engineering and Science University, Shibpur)

Ref. Advt. No. OC/D(AA)/16/57 dated 21.10.2016

For second phase repair of existing PECVD unit at Dr. M. N. Dastur School of Materials Science and Engineering

Allotment Head: 08000000-52-50

Dated: 21 October, 2016

Sealed quotations are invited for repair of different parts of the existing Plasma Enhanced Chemical Vapor Deposition (PECVD) unit installed in the SMALL lab of Dr. M. N. Dastur School of Materials Science and Engineering

1. Bidders are to submit the tenders in **sealed envelope** at the following address:

   Ref. Advt. No. OC/D(AA)/16/57 dated 21.10.2016

   Prof. S. Chatterjee
   Director
   Dr. M. N. Dastur School of Materials Science and Engineering
   Indian Institute of Engineering Science and Technology, Shibpur
   Howrah-711103.

2. The last date of receipt of Bids is **08th November, 2016** up to **3.00 p.m**. Bids received later will not be entertained under any circumstances.

3. Date and time of opening of bids is **09th November, 2015** at **11.30 a.m**. and the place of opening of bid is the **sub-library** of **MND-SMSE**, IIEST, Shibpur, Howrah-711103.

4. Bidders are requested to visit MND-SMSE to visually inspect the present condition of the existing PECVD unit and to form an idea of the present status of the instrument prior to submitting the bid.

5. The price quoted should be **inclusive of all taxes, duties, levies and transportation**. Inclusion of tax/levy at a later stage will not be accepted.

6. The Bids should be submitted along with this tender document with the terms & conditions duly signed by the proprietor/ partner/director of the company as a token of acceptance of terms & conditions of tender.

7. Warranty/guarantee for all the items of equipment supplied shall be on ‘all comprehensive’ basis (i.e., including repairs, replacements, maintenance, etc.).

8. The minimum applicable period of all comprehensive warranty for all items of **equipment** shall be **12 (twelve) months,** unless mentioned otherwise**,** from the **date of installation**.
9. The supplier / manufacturer shall provide **training** in operation and application of the PECVD unit after successful installation to user scientists and/or scholars at IIESTS.
10. Installation & commissioning will be the sole responsibility of the Supplier.
11. **Indian Institute of Engineering Science and Technology, Shibpur, reserves the right to accept / reject all or any of the tenders without assigning any reason whatsoever.**

We accept the above terms and conditions.

Dated: Signature of Bidders/Suppliers

With date & Seal

Technical Specifications

The following components with the indicated specifications are to be supplied and attached or integrated with the existing PECVD unit. The supplier MUST demonstrate the integrated functioning of each sub-system to obtain the desired result from the deposition unit.

Item 1: 'k' type thermo couple – 1 No.

Temperature controller 'K' type thermocouple to measure the substrate temperature of the PECVD chamber for measuring temperature up to 550^0C. The fitting should give accurate temperature of the substrate.

Item 2: Chiller – 1 No.

Continuous flow, closed-circuit, water cooled chiller with automated power on/off operation.

Tank capacity: minimum 25 L

Flow rate: 15 L/min or more

Single phase magnetic couple pump: 220V

The chiller should be able to maintain a temperature of 5^0C or less at the delivery point.

Installation, commissioning and integration of the chiller along with all necessary accessories required to achieve the expected final outcome with minimal down time.

The bidders must have adequate technical competence and capability in all the aspects regarding the requirement

The chilled water piping system should be single closed loop system with valves at strategic locations to address only the critical part of the load in the event of failure of any compressors.

The bidders are expected to come to SMALL lab and study the existing PECVD system and propose the most suitable chiller that can be integrated cost effectively with minimal down-time

Item 3: Scrubber – 1 No.

Chamber size: 762mm×305mm×610mm (height).

Chamber wall: Stainless steel, 18 swg minimum.

Chamber cover: Stainless steel open type 16 swg minimum.

Partition wall: 3 nos in chamber and 4 nos in cover.

Pump motor: Magnetic couple pump of minimum 50 LPM.

Water flow: water flow control with valve, pressure gauge indicator and intake line with valve.

Chamber: Excess water drainage line with valve.

Exhaust: Gas inlet and exhaust line with fan in chamber.

Pipe connection: Machine to scrubber pipe line fitting with valve for exhaust the gas.

Item 4: Vacuum pump – 1 No.

Vacuum pump with a capacity of 30L/min. All necessary tubing and other accessories to establish the proper connections to be supplied and integrated.

Item 5: Support for the hoisted chamber along with the hydraulic

A wooded or stainless steel supporting scaffold that balances and avoids accidental fall of the hoisted chamber. Please visit the LAB for dimensions and design.

Item 5: Installation of existing sub units

Installation of manual throttle valve should be done and demonstrated.

Electrode attachment along with substrate heater installation should be performed.

Leak detection test should be performed and a stable pressure of 10-6 Torr should be achieved.

The 4 existing mass flow controllers should be serviced and made functional.