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Date: 13 Apr 2018

Minutes of the Pre-Bid Meeting

1. It is notified to all concerned that with reference to IITH Tender No. **IITH/5(8)/SVANJARI/2017/T222** dated **16 Mar 2018** for **supply, installation and commissioning of "DRIE and ICPRie"**, the following changes are made w.r.t. the Tender: -

(a) **"Minutes of the Pre-Bid Meeting"** are enclosed as **per Annexure -1 (10 pages)**.

2. If any bidder has already submitted the bid prior to issue of this minutes of pre-bid meeting, it is required to re-submit the bid before the revised Due Date & Time considering changes in the specifications of the Tender.

3. All other Terms & Conditions of Tender remain completely unchanged.

Yours faithfully,

(V.VENKAT RAO)
Joint Registrar
IIT Hyderabad

Minutes of the pre-bid meeting for tender Ref. No. IITH/5(8)/SVANJARI/2017/T222

Date and Venue:

26th March 2018 from 10 AM in Room 211, A Block IIT Hyderabad

Participants:

1. Dr. Siva Rama Krishna Vanjari, Dr. Shiv Govind Singh, Dr. Emani Naresh Kumar, Dr. Shishir Kumar and Ms. Jinal Tapar - all from IIT Hyderabad
2. Oxford Instruments India Pvt. Ltd - Mr. Gurpal Singh
3. Aimil Ltd - Mr. Prashanth Joshi and team
4. SAMCO Inc: Mr. Hirokazu Amamori emailed SAMCO queries. No representative attended in person

The following are the queries raised during the meeting and the Clarification issued.

Tender Specification	Query	Clarification
P11, 2.1.1f	Requirement of pressure gauges between turbo pump to backing pump may be elaborated	It was agreed that a pressure gauge between turbo and backing pump will be detrimental to vacuum performance of the system. This requirement is waived.
P11. 2.1.2a	Is it necessary to have RF mesh in viewport? The view port is sufficiently small in our machine and there is no need for RF mesh	UV and RF protective coating/mesh are mandatory for view ports from which users can visually monitor the plasma chamber. The end point detection port can be appropriately blocked to prevent leakage of radiation into environment.
P12, 2.1.2c	Is Pa, vacuum unit, available instead of Torr.?	Pressure can be specified in units of Pa/Torr/mTorr as per convenience.
P12, 2.1.2e	Suitable pump flange, $\phi 210\text{mm}$, acceptable?	A smaller pump flange is acceptable provided the pressure requirements in the tender document are met.
P12, 2.1.2(d-f)	The tender mentions Turbo pumping using Magnetically Levitated/suitable corrosion resistant turbo-pump with a pumping speed of 2000 l/s or higher. The selection of the turbo pumping speed is based on the chamber geometry and design to achieve best process performance. We therefore request to allow turbo pump with pumping speed	A lower capacity turbo is acceptable if the vendor can guarantee the chamber pressure requirements specified. The ultimate chamber pressure must be better than 5×10^{-7} Torr.



	which will not have any compromise on process performance. .	
P12, 2.1.2g	Is our standard dry pump for TMP back 1300 l/min acceptable	Acceptable
P12, 2.1.3c	In case of 3 stand-alone systems, each system has its own LLC and no need TMP pump for LLC to achieve ultimate pressure. Is it acceptable?	A turbo pump is not required for pumping the load lock. An appropriate dry pump may be chosen such that the load lock is pumped to 1×10^{-3} Torr in 5 minutes. In case a cluster system is offered this pressure must be guaranteed for repeated pump-vent cycles.
P12, 2.1.3a	2.1.3a (page12) contradicts 2.1.3d. Latter more reasonable	The requirement of pumping to 30 mT in less than 2 min as specified in 2.1.3a is removed.
P12, 2.1.3b	0.2 mm wafer might be too thin and cause the carrier to bow	The transfer arm must be capable of handling wafers down to 0.3 mm . The maximum thickness remains unchanged at 0.8 mm
P12, 2.1.3c	LL turbo not necessary for Si etch chamber	The requirement of turbo for pumping load lock is relaxed. The bidders are free to choose a pump that guarantees load lock is pumped down to 1×10^{-3} Torr for typical wafer transfer to main chamber.
P12, 2.1.3d	The requirement of pumping down to 1×10^{-5} Torr in 30 minutes may please be relaxed	The load lock vacuum pumps must be able to reach an ultimate pressure of 1×10^{-5} Torr with overnight pumping.
P12, 2.1.4a	The requirement of minimum 5kW RF power may kindly be elaborated.	Since DRIE is anticipated to be used for long etch runs, we require the RF generator to have capability of 5 kW. However, the recipe may limit maximum power to 3kW. Additional capacity is intended to reduce the load on the source during long etch cycles.
P13, 2.1.4e	The numbering of first three points should be d,e and f. LF generator pulse frequency etching is patent of one particular company. Kindly rework the wording to allow other vendors	The item label of a-c is a typo. Please read them as d-f. The LF generator must provide excellent notch control. The requirement of pulse frequency ICP etching is removed.
P13, 2.1.5a	Please clarify the chamber diameter and the necessary wafer sizes.	All the chambers in this tender bid must be capable of supporting wafers of upto 200 mm. The sources must be chosen to provide uniformity over this

