



CSIR - NATIONAL PHYSICAL LABORATORY

(Council of Scientific & Industrial Research)

Dr. K. S. Krishnan Marg, Pusa, New Delhi -110 012

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Emails: spo@nplindia.org cosp@nplindia.org



From: Director, CSIR-NPL

Ref. No.: 14-III/PK (458)13-PB/PIC

Dt:

Dear Sirs,

Sub.: INVITATION FOR PRE-INDENT CONFERENCE –Intimation Regarding

National Physical Laboratory (NPL), a premier R&D unit of Council of Scientific & Industrial Research, intends to procure a “**ICP-RIE system for etching of silicon**” required for the surface modification, texturing, dry and selective etching of the silicon wafers, to tailor the optical/light trapping properties required for efficient silicon solar cells (as per pointer advertisement placed at **Annexure -II**).

In this regard, a **Pre-Indent Conference (PIC)** is being organized to finalize the broad technical specifications of the required system(s) as mentioned above. Prospective OEMs or their Authorized Distributors, System Integrators having specialization and experience of such installations and their maintenance thereof are invited to make presentations followed by discussions on technology, design, features, utility, technical parameters and other related Techno-commercial issues. The credentials, technical capability, financial standing & track record of vendors, will be evaluated, based upon PIC discussions and documents submitted by the interested parties. For this purpose brief details and purpose of requisite equipment is enclosed at **Annexure –I**.

Further the detailed scope of PIC and other conditions can be seen on NPL website: <http://www.nplindia.org> under “Tenders/Pre-Indent” → “Pre-Indent Conference Notifications” link. Parties willing to participate must send a formal communication to Controller of Stores & Purchase (emails: cosp@nplindia.org / spo@nplindia.org), in advance. The schedule for PIC will be as follows (as per pointer advertisement placed at Annexure -II):

Date & time of PIC: 04.10.2013 at 10.30 AM (IST) onwards.

Venue: Conference Room, 2nd Floor, Main Building, CSIR-NPL, New Delhi -110012.

Interested parties willing to take part in the above said PIC are requested to submit the documents to prove their Technical Capabilities, Client List, Financial Capabilities, Experience and Credentials at the time of attending of PIC along with Vendor Registration Form as per Annexure -III. A Line of confirmation in this regard may be sent.

Thanking you,

Yours Faithfully,

Encl: A/A

(Tariq Badar)
Controller of Stores & Purchase

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ICP-RIE system upgradeable to Bosch Process for selective silicon etching up to 8" diameter wafers with following broad features

- Etched features must have smooth sidewalls and vertical alignment/profile of the order of 90° with very good uniformity over entire 8" silicon wafer
- Etch process having minimum six process gas lines namely CF₄, C₄F₈, SF₆, Ar, O₂, CHF₃ with provision for future expansion to 6 lines (or two more gas lines).
- Etching system should have good process reproducibility and etch uniformity.
- Etch process selectivity (using resist and SiO₂ etch mask) should be better than 20:1.
- Aspect ratio of the etched features should be better than 10:1 (silicon structure)
- Chamber with load lock system with suitable pumping mechanism compatible with corrosive gas chemistry
- Inductively coupled plasma (ICP) RF source with suitable frequency and power for silicon etching.
- System should have suitable gas scrubber system
- Materials to be etched include: Si, poly silicon, SiO₂, SiN_x,. (for selective etching positive PR)
- Extensive software for system control (with manual override), data acquisition and analyzer.
- Company should mention all other add on features/optional items.
- Service capabilities, warranty, equipment training at supplier's laboratory, on-site training, accessories, spare parts etc..
- The company should have a reputation in supply and services of ICP-RIE systems and provide the list of users in and outside India.
- The equipment should have all standard safety features.



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PRE -INDENT CONFERENCE NOTICE No: 25/2013

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Further, the detailed scope of PIC and other conditions must be seen on NPL website: <http://www.nplindia.org> under “Tenders/Pre-Indent” → “Pre-Indent Conference Notifications” links. Parties willing to participate must send a formal communication to Controller of Stores & Purchase (emails: cosp@nplindia.org/spo@nplindia.org), in advance. The schedule for PIC will be as follows:

Date & time of PIC: 04.10.2013 at 10.30 AM (IST) onwards.

Venue: Conference Room, 2nd Floor, Main Building, CSIR-NPL, New Delhi -110012.

Further Corrigendum/Amendments, if any, will be posted in NPL website: <http://www.nplindia.org>

Sd/-
(Controller of Stores & Purchase)

VENDOR'S INFORMATION FORM

[The interested party shall fill in this form and should submit at the time of attending PIC. This should be done on the letter head of the firm]

1. Vendor's Legal Name :

2. Vendor's actual or intended Country of Registration :

3. Vendor's Legal Address in Country of Registration :

4. Vendor's Authorization Representative Information
Name :

Address :

Telephone/Fax numbers:

Email Address :