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 purchase@nplindia.org

From: Director, CSIR-NPL

Dt: 08.07.2014

M/S ……
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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 the following items as per schedule follows (as per pointer advertisement placed at Annexure -II):

SN.	Ref. No.	Brief details of item(s)	Brief Purpose	Date & Time of PIC	Venue
1.	**14-VII/SMP(2427)14-PB/ PIC**	Vector Network Analyzer upto 67 GHz	Required to enhance the metrology capabilities and to carry microwave studies.	July 22, 2014 at 10.00 A.M.	Conference Room, 2nd Floor, Main Building, CSIR-NPL, New Delhi -12
2.	**14-VII/MAA(2413)14-PB/ PIC**	AC High Voltage Capacitance Bridge & Standard Air Capacitor	To establish traceability for AC high voltage standards at NPL.	July 24, 2014 at 11.00 A.M.	TEC Conference Room, CSIR- NPL, New Delhi -12

In this regard, a **Pre-Indent Conference (PIC)** is being organized to finalize the broad technical specifications of the required system(s). Prospective OEMs or their Authorized Distributors, System Integrators having specialization and experience of such supplies, 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 Stores & Purchase Officer (emails: spo@nplindia.org/ purchase@nplindia.org), **in advance along with queries, if any**.

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 PBC along with Vendor's Information Form as per Annexure –III. A Line of confirmation in this regard may be sent.

Thanking you,

Yours Faithfully,

Encl: A/A

Stores & Purchase Officer

Ref. No.: 14-VII/SMP(2427) 14-PB/PIC

Draft Technical Specifications of VECTOR NETWORK ANALYZER UPTO 67 GHz

Essentials requirements:

1. Frequency range: 10 MHz to 67 GHz.
2. Ports: Two with single source (Impedance: 50 Ohms).
3. Dynamic Range: greater than 100 dB at 67 GHz.
4. Directivity: 30 dB or better.
5. Leveled Output Power: > 0 dBm (with built in step attenuator).
6. Front panel port connector: V type (1.85 mm).
7. Calibration kit for 2.92 mm - LRL type- Full 2 port calibration and single port calibration. Port extension compatibility.
8. Verification kit for 2.92 mm.
9. Two test port flexible Cables: V(f) to V(m), length: 100 cm
10. All Calibration certificates to be supplied (ISO 17025:2008)
11. Provision of up-gradation up-to 110 GHz in future.
12. IEEE, USB Ports for remote operation.
13. Standard Time base stability: $<1x10^{-6}$ ppm.
14. Precision Adaptor pair: V to K (2.92 mm)
15. Operating and Service Manual (Hardcopies and softcopies).
16. Training for two persons at NPL-site.
17. Electrical power requirement- AC mains (230V±10%), single phase (50Hz±5%).
18. Warranty: 02 (Two) years.

Optional requirements:

1. Time Domain Reflectometry.
2. Calibration kits for 1.85 mm and 3.5 mm connectors
3. Verification kits for 1.85 mm and 3.5 mm connectors.
4. Precision Adaptor pair: V to 3.5 mm.
5. Precision Adaptor pair: V to 2.4 mm
6. Precision connector gauge set.
7. All accessories, cables etc. for up-gradation upto 110 GHz.
8. Software for PC (windows-8 based) to fully control the Vector Network Analyser.

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Ref. No.: 14-VII/MAA(2413) 14-PB/PIC

Draft specifications:

A) AC High Voltage Capacitance Bridge

Capacitance Range	≤100 pF to ≥1 μF
Capacitance Ratio	1:1 to 1000:1 (specify the step size)
Bridge Resolution	1 ppm or better
Accuracy	± 15 ppm or better
Secondary Current (Cs) Range	≥ 10 mA (specify the minimum attainable current)
Dissipation Factor Range	0 to 10 % (specify the step size)
Test Frequencies	50 Hz and 60 Hz
AC Mains Supply	230 V ± 10 %, 50 Hz ± 5 %

Calibrated from NMI.
Necessary set of cables/ connectors compatible with standard low voltage and high voltage capacitors
Warranty: 3 years from the principals after installation

B) Standard Air Capacitor

Capacitance: 500 pF
Operating Voltage & frequency: upto 2 kV r.m.s, 50 Hz
Accuracy: ± 0.005 % or better
Tan delta < 1×10^{-5}
Calibration from NMI from 100 V to 2 kV (at 5 voltages)

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PRE –INDENT CONFERENCE NOTICE No: 04/2014

National Physical Laboratory (NPL), a premier R&D unit of Council of Scientific & Industrial Research, intends to procure the following item(s) as per below schedule:

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Further corrigendum/amendments, if any, will be posted in NPL website: http://www.nplindia.org

Sd/-
(Stores & Purchase Officer)

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 :