



CSIR - NATIONAL PHYSICAL LABORATORY

(Council of Scientific & Industrial Research)

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From: Director, CSIR-NPL

Ref. No.: 14-VII/DDS(2511)15-PB/PIC

Dt: 12.02.2016

To,
M/S

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 “**Sound Measurement System**” required to use microphone to excite and detect the acoustic resonances in a quasi spherical resonances with an inert gas atmosphere for accurate determination of Boltzmann Constant with a prospect of new definition of the unit of thermodynamic temperature, “Kelvin” (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: 04.03.2016 at 2.30PM (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

Ref. No.: 14-VII/DDS(2511)15-PB/PIC**The Item-wise Technical Specifications for Sound Measurement System:**

Use: Objective is to use microphone to excite and detect the acoustic resonances in a quasi spherical resonator with an inert gas atmosphere for accurate determination of Boltzmann Constant with a prospect of new definition of the unit of thermodynamic temperature, "Kelvin".

Instrument details	Quantity
<p>Quarter inch (6.35 mm diameter) Free-field Microphone and Loudspeaker (Sound Source):</p> <p>Sound Source: The Loudspeaker (or sound source) should be preferred combination of 1/4" inch free-field microphone of sensitivity 4 mV/Pa with a compatible 1/4" inch transmitter adaptor suitable for using it as a high impedance sound source in frequency range of 4 Hz to 80 kHz or better.</p> <p>Receiver: 1/4" inch free-field Microphone should be one externally polarized in frequency range 4 Hz to 80 kHz or better, Two 1/4" inch free-field pre-polarized Microphone in measurement frequency range of 4 Hz to 80 kHz or better.</p> <p>Operating temperature range: - 40 to 70 °C. Dynamic range upper limit with compatible preamplifier : 160 dB or higher</p>	03 Nos of Quarter inch Microphone & 02 Nos of Loudspeaker (sound source)
<p>Electrostatic actuator and power supply: 1/2" inch Electrostatic actuator with a compatible 1/4" inch adaptor for calibrating the 1/4" inch microphones in measurement frequency range (4 Hz to 80 kHz or better) and complying with IEC 61094-6.</p>	01 No
<p>Preamplifier: Compatible 1/4" inch preamplifier for polarized and non polarized microphones in frequency range 4 Hz to 80 kHz or better; Noise less than 20 µV. Operating temperature range: - 40 to 70 °C, Frequency response (re 1 kHz): ±0.5 dB, Input impedance ≥ 15 GΩ, Output impedance: 50 Ω or lesser</p>	02 Nos
<p>Microphone Power Supply with adjustable Polarization voltage (130V/200V):</p> <p>One Low noise Constant current power supply with option of selecting 0 and 200 V polarization voltage with a constant current of 4 mA. Another one Low noise Constant current power supply with an option of selecting 130 V polarization voltage so as to avoid sporadic arcing phenomena in inert gas environment in resonator.</p>	02 Nos
<p>Actuator Supply:</p> <p>Use: Capable of Driving 1/4" inch microphone (sound source) in frequency range of 1 Hz to 100 kHz and electrostatic actuator calibration</p> <p>Electrostatic actuator amplifier in frequency range of 1 Hz to 100 kHz (± 2 dB) or better complying with IEC 61094-6, Gain > 30 dB, Compatible connecting cable to the sound source Actuator output: 800 Vdc Polarization for microphone: 200 Vdc, AC output impedance: 1 kΩ, IEC 61094-6 compliant.</p>	02 Nos

General Requirements :

- Systems operating on 220-230 V, 50-60 Hz line frequency.
- Compliance with Standards: IEC 61010-1, IEC 60068-2-1, IEC 60068-2-2
- The diaphragm of microphone should be repairable easily with reasonable cost.
- Accredited Traceable Calibration Certificates for 1/4" inch Microphones should be provided by the Manufacturer.
- All individual items should be from one manufacturer and no combination of different makes from different manufacturers shall be considered
- Provision for repair of items listed in case of any malfunctioning should be there.
- Original Brochure of OEM to be attached with Quotation, Acceptance of positive compliance based on consideration in totality all the individual items listed.
- Printed and soft copy of Manual in English about the operation of all instruments shall be provided by the manufacturer
- Warranty for 2 years, extra warranty should also be quoted.

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Emails: spo@nplindia.org cosp@nplindia.org**PRE -INDENT CONFERENCE NOTICE No: 14/2015**

National Physical Laboratory (NPL), a premier R&D unit of Council of Scientific & Industrial Research, intends to procure a “**Sound Measurement System**” required to use microphone to excite and detect the acoustic resonances in a quasi spherical resonances with an inert gas atmosphere for accurate determination of Boltzmann Constant with a prospect of new definition of the unit of thermodynamic temperature, “Kelvin”.

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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: 04.03.2016 at 2.30 PM (IST) onwards.

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

Further Corrigendum/Amendments, if any, will be posted only 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 :