Global/Open Tender Notice No: 03/2010

Director, NPL invites tenders from reputed Indian / foreign manufacturers for the supply of the following item(s) under two bid systems:

<table>
<thead>
<tr>
<th>SN.</th>
<th>TENDER NO.</th>
<th>ITEM</th>
<th>QTY</th>
<th>EMD (In Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>14-VII/TDS(2275)10-PB/T-55</td>
<td>Focused Ion Beam Machining (FIB) System + Field Emission Scanning Electron Microscope (FE SEM)</td>
<td>01 No.</td>
<td>15.00 Lakh</td>
</tr>
<tr>
<td>2.</td>
<td>14-II(2274)10-PB/T-56</td>
<td>Liquid Helium Plant</td>
<td>01 No.</td>
<td>12.00 Lakh</td>
</tr>
<tr>
<td>3.</td>
<td>14-III/KP(360)10-PB/T-57</td>
<td>Long Gauge Block Interferometer</td>
<td>01 No.</td>
<td>10.00 Lakh</td>
</tr>
<tr>
<td>4.</td>
<td>14-VI/PB(603)10-PB/T-58</td>
<td>Active Hydrogen Maser</td>
<td>01 No.</td>
<td>3.00 Lakh</td>
</tr>
<tr>
<td>5.</td>
<td>14-III/SK(366)10-PB/T-59</td>
<td>Universal Hardness Machine for Rockwell, Vickers and Brinell Scales with Micro Vickers Facility</td>
<td>01 No.</td>
<td>2.00 Lakh</td>
</tr>
</tbody>
</table>

The detailed Tender Documents with complete terms & conditions with technical specifications are available on our website [http://www.nplindia.org](http://www.nplindia.org).

Last date of receipt of complete tenders is **September 16, 2010 up to 4.00 PM. (IST)**.

The date of opening of technical bids is **September 17, 2010 at 02.30 PM. (IST) onwards**.

Stores & Purchase Officer
Global/Open Tender Notice No.- 03/2010

August 13, 2010

Director, NPL invites tenders in closed/sealed covers with wax/cello tape/ company seal from the reputed Indian/foreign manufacturers or sole authorized dealers/distributors for the supply of the following item(s):

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Tender Number</th>
<th>Name of the Item</th>
<th>Qty.</th>
<th>EMD (In Rs.)</th>
<th>Tender Fee (In Rs.)</th>
<th>TB/ SB*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>14-VII/TDS(2275)10-PB/T-55</td>
<td>Focused Ion Beam Machining (FIB) System + Field Emission Scanning Electron Microscope (FE SEM)</td>
<td>01 No.</td>
<td>15.00 Lakh</td>
<td>300/- (If buy from NPL)</td>
<td>TB</td>
</tr>
<tr>
<td>2.</td>
<td>14-II(2274)10-PB/T-56</td>
<td>Liquid Helium Plant</td>
<td>01 No.</td>
<td>12.00 Lakh</td>
<td>300/- (If buy from NPL)</td>
<td>TB</td>
</tr>
<tr>
<td>3.</td>
<td>14-III/KP(360)10-PB/T-57</td>
<td>Long Gauge Block Interferometer</td>
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<td>10.00 Lakh</td>
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</tr>
<tr>
<td>4.</td>
<td>14-VI/PB(603)10-PB/T-58</td>
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<td>14-III/SK(366)10-PB/T-59</td>
<td>Universal Hardness Machine for Rockwell, Vickers and Brinell Scales with Micro Vickers Facility</td>
<td>01 No.</td>
<td>2.00 Lakh</td>
<td>300/- (If buy from NPL)</td>
<td>TB</td>
</tr>
</tbody>
</table>

Interested parties may download the tender documents directly from the website free of cost & submit them without depositing any tender fee. Both the bids i.e. the Technical & Price bids must be submitted on or before 16th September, 2010 up to 4.00 P.M. along with EMD.

Alternatively, the same may be purchased from Room No. 227-A, Purchase Branch up to 13th September, 2010 against a request letter along with Draft of Rs. 300/- in Indian Rupees or in equivalent Foreign Currency in favour of The Director, NPL, New Delhi towards the non refundable & non-transferable tender fee.

All the bids except the price bids of two bid system will be opened on 17th, September, 2010 at 02.30 PM. onwards in the presence of the bidders, who wish to be present. The Director, NPL, reserves the right to accept/reject any offer in part or full without assigning any reason.

*TB – Two Bid Tender System
SB – Single Bid Tender System

STORES & PURCHASE OFFICER
## SPECIFICATION FOR DUAL SYSTEM
FOCUSED ION BEAM MACHINING (FIB) SYSTEM + FIELD EMISSION SCANNING ELECTRON MICROSCOPE (FE SEM)

<table>
<thead>
<tr>
<th>S.No</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accelerating voltage</td>
<td>adjustable up to 30 kV</td>
</tr>
<tr>
<td>2</td>
<td>Probe/Ion Beam Current</td>
<td>1pA to 30nA</td>
</tr>
<tr>
<td>3</td>
<td>FIB Emitter/ ION Source</td>
<td>Ga Liquid ion emitter</td>
</tr>
<tr>
<td>3</td>
<td>Ion Beam spot size</td>
<td>&lt; 5 nm on the target</td>
</tr>
<tr>
<td>4</td>
<td>Life Time</td>
<td>1000 hrs or more</td>
</tr>
<tr>
<td>5</td>
<td>Lens System</td>
<td>2 Stage Electrostatic</td>
</tr>
<tr>
<td>6</td>
<td>Optical Magnification</td>
<td>100X to 300,000 X</td>
</tr>
<tr>
<td>7</td>
<td>Gas Injection System (GIS) along with Gas Chemistry Crucibles for depositing and etching, a)Platinum (Pt), b)Tungsten(W) c) SiO2 d)Carbon e)XeF₂</td>
<td>Digital patterning Engine for standard geometrical pattern with blanking facility</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Minimum Feature size in Milling 10nm or lesser</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Minimum feature size in Deposition 25 nm or lesser</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Charge Neutralizing for milling of insulating Materials</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Imaging during charge neutralizer operation and FIB Milling</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Nano/Micro Manipulators module for electrical measurements</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Capable of electrical measurement on 12 mm X 12 mm X 4 mm or better with minimum of 4 positioners: 4. Positioner should have X, Y, Z course resolution, fine resolution and range of motion: 50 nm 2 nm and 12 mm respectively. Preferred Max Voltage per positioner: 100 V and Max Current per positioner: 100 ma.</td>
</tr>
</tbody>
</table>

### B. ELECTRON COLUMN

<table>
<thead>
<tr>
<th>S.No</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>SEM Type</td>
<td>Field Emission SEM</td>
</tr>
<tr>
<td>15</td>
<td>Electron Source</td>
<td>Schottky thermal field emitter</td>
</tr>
<tr>
<td>16</td>
<td>Accelerating Voltage</td>
<td>Up to 30 kV</td>
</tr>
<tr>
<td>17</td>
<td>Resolution</td>
<td>1.0nm @ 15 kV or finer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.0nm @ 1 kV or finer</td>
</tr>
</tbody>
</table>
18. Optical Magnification
19. Maximum Probe current
20. SED

21. Electron Backscatter Diffraction Detector (EBSD)
   - Speed of 800 points/sec in 8x8 binning mode or 620 points/sec in 4x4 binning mode or more. Angular resolution of 0.5 degrees at 300-400 points/sec speed.
   - Detector size > 20 mm²
   - Energy resolution <129 eV at Mn Kα at 50,000 cps or more, <1eV shift in peak position and resolution between count rates of 1 kcps and 10 kcps
   - < 4×10⁻⁶ Torr

23. Vacuum Level
24. Evacuation Time
25. Lithography module
   - 5 min maximum

26. IMAGE
   - Image display
   - Image acquisition: for in-chamber viewing
   - 1024X768 pixel (Minimum required)
   - Up to 3072X2304 pixels. (Minimum required)
   - IR-CCD CAMERA

C. STAGE
27. Stage
28. Max Sample Size:
29. X Y Z R W
   - ø200 x 25 mm or larger
   - 100mm or larger
   - 100 mm or larger
   - 50 mm or larger
   - -10° to 60° or better
   - 360°

30. Resolution of Stage
31. Repeatability
   - 300 nm or finer
   - 2μm

D. Essential USER INTERFACE and AUTOMATION
32. Two PCs with Latest hardware configuration>8GB RAM, dual hard disks, wireless key board and mouse:
   a) For real time image acquisition and process control
   b) For processing and general access to computer network
   - Multi functional control panel, Joystick and Colour laser jet printer, 2x19” LCD
   - Compatible operating system for providing graphical user interface

33. Particle Analyzer
34. Measurement of Critical Dimensions and features
   - Automated etching and deposition of all materials in desired pattern using
generated patterns and imported image files with required accuracy and thickness control

- Automated sequential etching and imaging Exporting of data of all subsystems and detectors of FIB system to common document formats (ie., .doc and .xls)

Patterns supported:
- Lines
- Boxes
- open boxes
- Polygons
- Circles
- cross section and
- cleaning cross section

File import: Directly imported BMP/JPG file for 3D milling

E. Essential TOOL KIT

Necessary tools and spare kits for
- a. Mounting and Demounting of samples
- b. replacement of consumables such as electron source, ion source, apertures
- c. regular maintenance of system including accessories and subsystems of FIB

F. ESSENTIAL DOCUMENTS 1 SET OF SOFT COPY IN ENGLISH

- Operating manual
- Maintenance manual
- Servicing manual
- Programming manual
- Spare parts list with source of supply and prices
- Description of control interface
- Manuals of bought out items incorporated in the system
- Test Chart
- Foundation Plan Details

optional

G. Electron and ion coloumn

1. Secondary Ion Detectors
2. Lamella Preparation Should able to machine to thickness<100nm and damage thickness<3nm on each side
3. Temperature Characterization attachment in nano/macro manipulator.
4. Electron Beam Induced Current (EBIC) and Electron Beam Absorbed Current (EBAC) characterization
5. Cathode luminescence attachment
6. prep chamber for Particle or beam induced Corse milling with high milling rate (Laser milling /Ar+ ion source) over an area of 2.5 x 2.5 cm2. with load lock isolation from the main chamber and possibility to transfer samples into the SEM/milling chamber after coarse milling.
7. Reference samples for calibration of Ion Beam, Electron Beam, Microscope, EDS and stage
8. Spare Electron fillament
9. Spare Ga-Ion Source
10. Spare Aperture Source for electron column
11    Spare Aperture for ion column

ESSENTIAL TERMS AND CONDITIONS

H. SAFETY REQUIREMENTS FOR EQUIPMENT AND PERSONNEL

1    All safety precautions for preventing operator exposure to X-Rays should be taken. Provision for safe shutdown of the equipment in event of a service failure

2    All necessary safety devices for proper protection of the system and operator

I. INSTALLATION, COMMISSIONING, PROVING

3    Installation, commissioning at NPL NEW DELHI must be done by supplier free of cost. Confirming to all specifications

4    Suppliers to provide training for 2 weeks for 2 persons on programming, operation and maintenance of the entire system at NPL New Delhi

J. WARRANTY:

5    2 years from the date of commissioning at NPL. Replacement of parts if any, during warranty must be done free of cost

K. SERVICE SUPPORT

6    Shortest Turnaround time for making the equipment operational from the time of reporting the breakdown.

7    Service Support in India

8    Service Support in DELHI AND NCR (Preferable)

9    List of Users in India and abroad

10   Price of Similar System supplied to Government of India Institutions
Essential:

Helium liquefier (Turbine based) with rate of liquefaction: minimum ~ 25 litres / hour without LN₂ pre-cooling & minimum ~ 50 litres / hour with LN₂ pre-cooling to be operated at 415±10 % Volts AC (3-Phase), 50 Hz, under ambient conditions of Minimum 10°C to Max. 45°C, with following Specifications:

1. Integrated Standard automated control system
2. Water cooled Screw Compressor compatible with above helium liquefier.
3. Oil Removal and Gas Management System
4. Internal purifier with capability to purify air impurity up to 5 % integrated with the cold box
5. Pure helium buffer tank with capacity 8-10 M³ integrated with liquefier.
6. Main Storage Dewar of 1000 L capacity integrated with the cold box.
7. Installation & commissioning
8. Inspection and Training of two personal at company’s site for minimum 5 days.
9. Temperature and pressure sensors at suitable locations
10. Water Chilling unit compatible with the helium liquefier. *Should be quoted separately again with detailed specifications.*
11. Helium Purity Monitor for trace gases like N₂, Oxygen etc. in the range (0.1-150 PPM): *Should be quoted separately with complete specifications.*
The vendor should give the list of institutions in India and abroad where such or equivalent systems have been supplied during last 5 years. Assured supply of spare parts and service support for next ten years.
Warranty period from the date of successful installation, commissioning and performance may be stated in the quotation. We will prefer warranty for three years, in case firm gives warranty for a lesser period, AMC for 3 years after the expiry of warranty period should also be included.

**Note:** Supplier must provide a lay-out plan map drawing, 2 Sets of operation, technical & service Manuals, Data on variation of liquefaction rate with the % air impurities.

**Optional:**

1. Gas Bag of approximately 10 M$^3$ capacity
2. High Pressure Recovery (200 Bar) compressor with minimum throughput 20 M$^3$/h
3. External Helium Purifier, which can work in Auto & Manual Mode having processing capacity 20 M$^3$/h with 1 % air impurity of 100 M$^3$ purification capacity.
4. Flexible liquid Helium transfer line. [from 1000 liter Main Storage Container (integrated with the liquefier) to portable Dewars]
5. Remote Monitoring and Control system
6. Spare parts (lists to be attached) for maintenance for 8000 hours & tool kit.
7. One set of spare turbines with accessories.
Technical Specifications of Long Gauge Block Interferometer

Long Gauge Block Interferometer for measurement of variation in length and Flatness of Long Gauge Blocks. It should comprise of interferometer, light sources, data acquisition and processing system, measurement chamber, sensors and vibration isolation table etc.

The detailed specifications are as under-

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement Range</td>
<td>125mm to 1000mm</td>
</tr>
<tr>
<td>Uncertainty in measurement</td>
<td>Central length measurement with an uncertainty of less or equal to ( \pm \sqrt{(50)^2 + (90L)^2} ) nm where ( L ) is in metre, uncertainty in measurement is evaluated at 95% confidence level, ( k = 2 ) and temperature of (20±0.2) °C</td>
</tr>
<tr>
<td>Uncertainty in Temperature measurement</td>
<td>± 0.01 °C at ( k=2 )</td>
</tr>
<tr>
<td></td>
<td>At least six material temperature sensors for the gauge blocks</td>
</tr>
<tr>
<td></td>
<td>(Minimum 2 sensors for each gauge block)</td>
</tr>
<tr>
<td></td>
<td>At least two temperature sensors for air in the chamber.</td>
</tr>
<tr>
<td>Humidity sensor accuracy</td>
<td>± 0.2 °C (Dew point measurement) or better</td>
</tr>
<tr>
<td>CO(_2) Sensor</td>
<td>CO(_2) sampler 40ppm (typical)</td>
</tr>
<tr>
<td>Barometric pressure accuracy</td>
<td>± 0.15 mbar or better</td>
</tr>
<tr>
<td>Fringe measurement</td>
<td>Viewing of the fringe pattern with CCD camera.</td>
</tr>
<tr>
<td></td>
<td>Fringe measurement accuracy of ± 0.01 of a fringe</td>
</tr>
<tr>
<td>Data Acquisition, processing and Display System</td>
<td>System should be computer controlled. (System specifications are attached)</td>
</tr>
<tr>
<td></td>
<td>Should be capable of entering/capturing the values of the calibration data provided in the certificates of temperature sensors, humidity sensors and carbon di-oxide sampler, coefficient of thermal expansion etc.</td>
</tr>
<tr>
<td></td>
<td>Should capture fringe fraction and calculate the variation in central length and flatness taking in to account various influencing factors on line.</td>
</tr>
<tr>
<td></td>
<td>To output the variation in length and flatness of the gauge block(s) in mm as well as inches along with uncertainty.</td>
</tr>
<tr>
<td>Component</td>
<td>Specification</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Measurement Chamber</td>
<td>Chamber should be capable of holding at least three Gauge blocks at suitable positions at a time. The temperature control of the measuring chamber should be ( \pm 0.1 , ^\circ\text{C} ) or better.</td>
</tr>
<tr>
<td>Light sources</td>
<td>At least three frequency stabilized lasers, (typically Red light, Green light and Yellow / Orange light) of power 1mW or better and corresponding to at least safety class 2. Frequency Stability of ( \pm 2 \times 10^{-8} ) or better. The lasers should be individually calibrated by an NMI, calibration certificate must be provided.</td>
</tr>
<tr>
<td>Platens</td>
<td>3 Nos of steel platens, with flatness of 75nm Diameter 60mm each</td>
</tr>
<tr>
<td>Vibration-isolation table</td>
<td>Suitable vibration isolation table along with compressor for supporting the entire calibration system</td>
</tr>
<tr>
<td>Certificates of calibration</td>
<td>Calibration certificates for the sensors from an NMI to be provided. The complete system to be certified for the measurement uncertainty by an NMI.</td>
</tr>
<tr>
<td>Operation voltage</td>
<td>220 volts 50 Hz AC</td>
</tr>
<tr>
<td>Annual Maintenance Contract</td>
<td>5 years from the date of expiry</td>
</tr>
</tbody>
</table>

Pre-dispatch inspection on site (at the premises of the supplier firm) by NPL Scientists/Technical Persons (2 persons) at the expense of the supplier.

To provide training to the NPL Scientists/Technical Persons, free of cost at NPL, India.
Spares to be quoted separately

1. Platens 3 Nos of Ceramic, with flatness of 75nm Diameter 60mm each

2. Platens 3 Nos of Steel, with flatness of 75nm Diameter 60mm each

Critical and other important spares of the system may also be quoted separately.

Supply of the critical and important spares of the system required during next 5 years after installation/ commissioning to be ensured.

The quoting firm to provide requirements of pneumatic supply, electric power supply, environmental conditions of the room, floor area required in m² etc. well in advance to NPL India.

Installation and commissioning of the system should be carried out on site by the company engineers at no cost to NPL New Delhi

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**System Specifications**

- Commercially available backplane type computer with licensed Microsoft windows, Software and color Laser printer.
- The software should give desired output of the centre length deviation in nanometers or in micro inches as appropriate.
- The user should be able to enter the calibration data provided in sensor and laser frequency calibration certificates.
- Software should calculate the center length taking into account all of the influencing factors online by means of suitable interfacing of all sensors to the computer system. (Some certificates which show only compliance with specification and do not provide numerical values. In such case no value needs to be entered)
- There should be a provision to enter coefficient of linear expansion of the gauge under measurement.
- Software should automatically record the deviation data of the gauge blocks being measured.
- Software should have suitable warnings/ locking facilities for the system if environmental conditions are out of range.
- Software should have multi level password protection system. Commercially available latest virus protected system should be provided.
- The software should be loaded in the computer and provided on cds, any upgrade in the software should be provided for three years after installation.
Active hydrogen maser

Essential Technical specifications:

- Operational at AC 230 V, and also DC 24 - 30 V
- Output signals:
  5 MHz or 10 MHz, 100 MHz, $U_{eff} = 1$ V in 50 Ω
  1 PPS: rise time $< 10$ ns, pulse duration $> 1$ μs, TTL level
- 1 PPS TTL input for external synchronization
- Relative frequency instability expressed as Allan Standard Deviation for averaging times $\tau$ in seconds:
  $2 \times 10^{-13}$ at $\tau = 1$ s
  $3 \times 10^{-14}$ at $\tau = 10$ s
  $2 \times 10^{-15}$ at $\tau = 10^4$ s
  $< 2 \times 10^{-15}$ at $\tau = 1$ day
- Relative frequency drift with cavity auto-tuning activated:
  $< 4 \times 10^{-16}$/day after 3 months of operation on site in temperature controlled environment ($\Delta T_{rms} = 1^\circ C$)
- Relative frequency sensitivity against changes of external parameters:
  against temperature variations (at about 25°C): $< 10^{-15}/^\circ C$
  against changes of ambient magnetic flux density: $< 10^{-13}$/mT
- Monitoring of internal operational parameters and function control (local or remote through any network) by a personal computer via RS-232. Compatible PC for control loaded with Microsoft Windows XP/Vista/7 and operation software and operation manual to be provided.
- Inhouse Operation and Maintenance Training to be provided.

Desirable Technical specifications:
Phase noise at 5 MHz: $<-135$ dBC/Hz at 10 Hz offset
Further requests:

The following documents have to be enclosed to the tender:

- A reference list of customers (name, address, email address, model and date of shipment) to whom such an active hydrogen maser was delivered.

- Data sheets of the active hydrogen maser containing all the Essential technical specifications.

- Please specify additional cost of warranty extension of the physics package by 5 years

  *Standard warranty of one year is required and the bidder should quote separately for extended warranty for four years.*
**Universal Hardness Testing Machine for Rockwell**

**Vickers and Brinell Hardness Scales with micro-Vickers Facility**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Force steps</td>
<td>(1, 2, 2.5, 3, 5, 6.25, 10, 15, 15.625, 20, 25, 30, 31.25, 45, 50, 60, 62.5, 100, 125, 150, 187.5, 250, 500, 750) including micro-Vickers force steps.</td>
</tr>
<tr>
<td>Force step actuation / Force generation</td>
<td>Automatic load selection, application and unloading. Closed loop load cell based programmable controlled system for force step actuation with continuous recording of loading/indentation depth curve during the test.</td>
</tr>
<tr>
<td>Accuracy of force</td>
<td>± 0.1% or better</td>
</tr>
<tr>
<td>Timing cycle</td>
<td>Time cycle should be adjustable as per the standard</td>
</tr>
<tr>
<td>Measuring of indentation</td>
<td>For Rockwell Length tracer accuracy ± 0.2μm, indentation depth resolution ± 0.02μm</td>
</tr>
<tr>
<td></td>
<td>For Vickers Resolution 0.2μm/0.1μm to cover the specified range</td>
</tr>
<tr>
<td></td>
<td>For Brinell Resolution 2μm/1μm to cover the specified range</td>
</tr>
<tr>
<td></td>
<td>Optical zoom technology obviating need for multiple lens changes</td>
</tr>
<tr>
<td></td>
<td>Automatic indentation measuring with a required software for contrast image analysis with additional clarity against edge bulging and displaying the measured hardness values on each scale.</td>
</tr>
<tr>
<td></td>
<td>Automatic determination of machine compliance with graphic representation</td>
</tr>
<tr>
<td>Possible test procedures</td>
<td>HV1, HV2, HV3, HV5, HV10, HV20, HV30, HV50, HV100. (including micro Vickers scales)</td>
</tr>
<tr>
<td></td>
<td>HR A-B-C-D-E-F-G-H-K, HR15N, HR15T, HR30N, HR30T, HR45N, HR45T</td>
</tr>
<tr>
<td></td>
<td>HBW 10/500, 10/250, 10/100</td>
</tr>
<tr>
<td></td>
<td>HBW 2.5/187.5, 2.5/62.5, 2.5/31.25, 2.5/15.625, 2.5/6.25</td>
</tr>
<tr>
<td></td>
<td>HBW 1/30, 1/10, 1/5, 1/2.5, 1/1</td>
</tr>
<tr>
<td>Indenter accessories</td>
<td>One set of indenters with holders for performing all the specified hardness scale measurements</td>
</tr>
<tr>
<td>Data acquisition</td>
<td>Suitable software and hardware including a PC with laser printer to continuously record and display the load indentation curve while the test is performed, capturing of the image, analyze the data and displaying the measured hardness values on each scale specified with uncertainty. The software may have provision for converting one hardness scale to other hardness scales. Automatic storage and reanalysis of test data.</td>
</tr>
<tr>
<td>Certificate</td>
<td>A certificate from one of the NMIs / accredited laboratory for its performance and accuracy has to be provided.</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Installation &amp; commissioning</td>
<td>Installation, commissioning and operational training have to be provided by the supplier at NPL.</td>
</tr>
</tbody>
</table>

- Only manufactures / suppliers who have supplied similar machines to leading National Meterological Institutes (NMIs) may quote. A list of customers using the machine may be given with the quotation.

- The machine will be used in controlled environment of temperature (23 ± 1)°C and humidity (50 ± 10)%. Electric mains supply is 50 Hz, 220V ± 10% single phase and/or 440V ± 10% three phase.

- Operating Instruction manual should be provide in English

- Guarantee: The machine performance should be guaranteed for two years from the date of installation/ commissioning at NPL for trouble free operation.

**Optionals**

- Motorized turret with the option for changing indenter and objective lenses

- Other accessories such as test block, additional indenters, etc., may be indicated separately on the quotation.

- Trouble shooting manuals in English may be provided along with the equipment including drawings of the critical components of the machine, electrical and electronic circuitry, etc.

- Availability of spare parts of the equipment will be guaranteed for a period of at least five years from the date of supply.

- A list of spares required for 2 years after the warranty is expired may also be included and quoted.
Open/Global Tender Notice No.- 03/2010

August 13, 2010

TENDER DOCUMENT FOR OPEN/ GLOBAL TENDER

(TERMS & CONDITIONS INCLUDING INSTRUCTION TO BIDDERS AND CONDITIONS OF CONTRACT)

1. **GENERAL:** Quotations in closed cover are invited on behalf of the Director, National Physical Laboratory, New Delhi from the reputed Indian and foreign manufacturer. **The offer/ quotation must be strictly as per required specifications and the tender terms & conditions.**

2. **PREPARATION AND SUBMISSION OF OFFERS:**
   a. Quotation should be submitted directly by the original manufacturer/supplier or its sole authorized distributor/dealer. In case of bid by authorized dealer/distributor, the manufacturer authorization should be attached with the technical bid as per **Annexure-‘F’**.
   b. In case a bidder is not doing business within India, it shall furnish the certificate to the effect that the bidder is or will be represented by an agent in India equipped and able to carry out the supply, maintenance, repair obligations etc. during the warranty and post-warranty period or ensure a mechanism at place for carrying out the supply, maintenance, repair obligations etc. during the warranty and post-warranty period.
   c. The bidder shall bear all costs associated with the preparation and submission of its bid irrespective of the conduct or outcome of the bidding process.
   d. The bidder should not indulge in any corrupt, fraudulent, collusive, coercive practices during the entire process of procurement and execution of contract/order.
   e. Before the deadline for submission of the bid, NPL reserves the right to modify the bidding document and to extend or not to extend the date of submission. Such amendment/modification will be notified to bidders receiving the bidding document in writing or by cable/fax/email and will also be hosted on NPL website.
   f. Conditional tenders will be summarily rejected.
   g. A bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice signed by the authorized signatory before the date of submission of the bid. Any re-submission or modification in the bid should be submitted before the date & time of submission of bid as originally conveyed in the invitation of bid.
   h. No bid may be withdrawn, substituted or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form or any extension thereof.
   i. First envelope marked “WITHDRAWAL” shall not be opened, but returned to the Bidder subject to submission of valid authorization to request the withdrawal. In case of substituted and modified bid, only the substituted bids and modified bids will be opened subject to production of authorization from the bidders.
   j. The quotation should be addressed to the Director, National Physical Laboratory, New Delhi and sent to the Stores & Purchase Officer.
   k. Each offer/quotation should be kept in separate envelope against each item of the tender notice.
   l. For items covered under Two-Bid -Tender System, quotation/offer should be submitted in two separate envelopes containing Techno-Commercial bid and Price bid and these put in one envelope.
   m. **The outer cover containing the offer/quote should be super-scribed with our Tender No. (Not the Open/ Global Tender Notice No.), Due date and Date of opening of tender.**
n. The offers must contain the following documents:

(A) Techno-commercial offers must contain:
   i. Manufacturer authorization (as per clause 2(a)) as per Annexure ‘F’.
   ii. Certificate by bidder not doing business in India as per clause 2(b).
   iii. Technical literature/leaflets and complete specifications of quoted model(s) along with commercial terms and conditions.
   iv. Compliance statement/questionnaire of tender terms and conditions as per Annexure ‘A’
   v. Compliance statement of specifications as per Annexure ‘B’
   vi. Bid Security/EMD (as per clause -4) as per Annexure ‘C’
   vii. In case of exemption from submission of Bid security, proof of registration with DGS&D/NSIC as per clause (4(a)).
   viii. Copies of previous supply orders (as per clause 9(c) and clause 24) as per Annexure –‘G’.
   ix. Details of supplies of similar equipments as per clause 9(d).

(B) Price Bid offers must contain: (Only in case of two bid system)
   i. Bid price as per clause 5 in format enclosed as Annexure- ‘D’ or Annexure- ‘E’ as applicable.
   ii. Certificate of price reasonability as per clause 9(b).

3. DUE & OPENING DATES: The Offer/Quotations must reach at NPL on or before 16th September, 2010 up to 4.00 P.M. The tenders will be opened at 2.30 P.M. on 17th September, 2010 in the presence of bidders, who wish to present themselves at the time of opening of tender. In case opening date happens to be a holiday, the tender will be opened on next working day at the same time & location. The price bids of two bid tender system shall be opened after technical evaluation of technical bids. The date of opening of price bids shall be informed to the bidders found suitable in technical evaluation. No request for extension in the date of submission & opening of tender will be entertained. However NPL, may at its discretion, extend the deadline for submission of bids under intimation to bidders.

4. EARNEST MONEY DEPOSIT (EMD):
   a. EMD in the form of Bank guarantee (As per format enclosed as ANNEXURE- ‘C’) or Term Deposit Receipt/FDR or Bank Draft of a scheduled bank pledged in the name of Director, National Physical Laboratory, New Delhi valid for 180 days from the date of opening of the tender for the required amount as mentioned in the tender notice separate for each item must be submitted along with the quotation (with the techno-commercial quotation in case of two-bid system and photocopy of the same enclosed with the price bid and for foreign manufacturers they should furnish the EMD in foreign currency equivalent to Indian rupees, otherwise quotation may not be considered. The firm registered with DGS&D/NSIC as manufacturer for the supply of the same category of item for which the party is submitting quotation will be exempted from submission of EMD. Intended parties will have to give proof of registration along with their quotation. EMD of the unsuccessful bidders shall be refunded without any interest at the earliest after finalization of the purchase of concerned item. The party must therefore, submit a pre-receipted Bill in triplicate along with the quotation (in case of EMD sent in form of Bank Draft) to enable us to refund their EMD.
   b. The bid security /EMD may be forfeited if a bidder withdraws or amends or impairs or derogates its bid during the period of bid validity.

5. PRICES
   Bid prices should be filled in the appropriate format enclosed as Annexure ‘D’ and ‘E’.

A. For goods manufactured in India:
   (i) The price of goods quoted Ex-Works including taxes already paid.
   (ii) VAT and other taxes like excise duty etc. which will be payable on the goods if the contract is awarded.
      (a) The charges for inland transportation, insurance and other local service required for delivering the goods at the desired destination as specified in the price schedule form.
      (b) The installation, commissioning and training charges including any incidental services, if any.
B. For goods manufactured abroad:
(i) The price of the goods, quoted on FCA (Named place of delivery abroad) or FOB (Named port of shipment), as specified in the schedule form.
(ii) The charges for insurance and transportation of the goods to the port/place of destination.
(iii) The agency commission charges, if any.
(iv) The installation, commissioning and training charges including any incidental services, if any.

C. We are exempted from payment of Excise Duty under notification number 10/97 dated 01.03.1997 and Customs Duty under notification No.51/96 dated 23.07.1996. Hence Excise Duty and Customs Duty, if any, should be shown separately. No other charges than those mentioned clearly in the quotation will be paid.

D. Sales Tax: We are not authorized to issue any Sales Tax Form ‘C’ & ‘D’. However, being R&D Organization concessional Sales Tax Forms can be issued, if it is applicable in your states from where the material is being supplied.

6. VALIDITY OF OFFER:
The prices must be valid at least for a period of 90 days for indigenous supplies & 180 days for imports from the date of opening of the Tender. No changes in prices will be acceptable in any condition after opening of tender till the validity of the offer or execution of the order whichever is later.

7. EVALUATION OF BIDS: Before submission of bid, the bidder is expected to examine all the instructions, forms, terms and specifications in the bidding document and should ensure that the following conditions are fulfilled:
   a. Bidder Information form as per Annexure-‘H’.
   b. The price schedule should be enclosed and must be signed.
   c. The bid validity should not be shorter than required.
   d. The manufacturer’s authorization should be enclosed in case the bidder is authorized dealer/distributor.
   e. The bidders should agree to provide the Performance Security.
   f. The quoted goods should be as per required specifications.
   g. In case the bid is substantially responsive, the purchase may request that bidder may submit the necessary information, documents, within a reasonable period of time, to rectify, non-material, non-conformities or omission in the bid related to documentation requirements. Failure of the bidders to comply with the request may result in the rejection of its bids. But in case of the material deviation/reservation or omission which limits or is inconsistent with the bidding documents and the Purchaser’s Rights or Bidders obligation under the contract or which if rectified, would unfairly affect the other bidders, the bid will be rejected.
   h. The Purchaser shall correct arithmetical errors on the following basis:
      (i) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected.
      (ii) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
      (iii) If there is a discrepancy between words & figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.
   i. Selling exchange rate/equivalent to Indian currency will be as on the date of bid opening in the case of single bidding and the rate on the date of opening of the priced bids in the case of two-part bidding.
   j. The bids shall be evaluated on the basis of final landing cost as per Annexure –‘D’ in case of import and Annexure –‘E’ in case of indigenous items.
   k. The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF/CIP basis respectively. However the CIF/CIP prices quoted by any foreign bidders shall be loaded further as under:
      (a) Towards customs duty and other statutory levies-as per applicable rates.
      (b) Towards custom clearance, inland transportation etc. – 2% of the CIF/CIP value.
   l. Where the price quoted on FOB/FCA and CIF/CIP basis are the same, the Contract would be made on CIF/CIP basis only.
m. The Purchaser reserves the right at the time of Contract award to increase or decrease the quantity of goods and services originally specified in the tender document without any change in unit price or other terms and conditions. Further, at the discretion of the purchaser, the quantities in the contract may be enhanced by 30% within the delivery period.

8. The Vague terms like “packing, forwarding, transportation………….. etc. extra” without mentioning the specific amount/percentage of these charges will not be accepted. Such offers shall be treated as incomplete and rejected.

9. **REASONABILITY OF PRICES :**
   a. Please quote best minimum prices applicable for a premiere Research Institution, **leaving no scope for any further negotiations on prices.**
   
   b. The quoting party should give a certificate to the effect that the quoted prices are the minimum and they have not quoted the same item on lesser rates than those being offered to NPL to any other customer nor they will do so till the validity of offer or execution of the purchase order, which ever is later.
   
   c. Copies of **at least last three supply orders of the last 3 years** received from other customers along with details of such supply orders preferably in India for the same item/model may be submitted with the offer giving reasons of price difference of their supply order & those quoted to us, if any. (As per Annexure –‘G’).
   
   d. The party must give details of identical or similar equipment, if any, supplied to any CSIR lab during last three years along with the final price paid and Performance certificate from them.

10. **ANNUAL MAINTENANCE CHARGES:** The party must mention in the quotation, the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention.

11. **SPECIFICATIONS:**
   a. Specifications are basic essence of the product. It must be ensured that the offers must be strictly as per our specifications. At the same time it must be kept in mind that merely copying our specifications in the quotation shall not make the parties eligible for consideration of the quotation. A quotation has to be supported with the printed technical leaflet/literature of the quoted model of the item by the quoting party/manufacturer and the specifications mentioned in the quotation must be reflected/supported by the printed technical leaflet/literature. Therefore the model quoted invariably be highlighted in the leaflet/literature enclosed with the quotation. Non-compliance of the above shall be treated as incomplete/ambiguous and the offer can be ignored without giving an opportunity for clarification/negotiation etc. to the quoting party
   
   B. The technical bid shall be evaluated for acceptability by the technical committee and may call the tenderers for discussion. If necessary, the committee may modify the technical specification to suit the NPL requirement. In such case the opportunity shall be given to the participating bidders for submitting the revised bid as per modified specifications, if any.

12. **COMPLIANCE STATEMENTS:**
   a. Bidders must furnish a Compliance Statement of each and every required Specification of our tender in the format at Annexure –‘B’. The deviations, if any, from the tendered specifications should be clearly brought out in the statement. Technical literature/leaflet showing the compliance of the specification may also be attached with the quotation.
   
   b. Similarly, the Compliance Statement/questionnaire for Terms & Conditions of the tender may be furnished, as per the enclosed format at Annexure –‘A’, along with quotation (with techno- commercial bid in case of two bid tender system).
   
   c. The firms are advised to submit both the compliance statements essentially along with their quotation failing which their offer may not be considered.
13. **PERIOD & MODE OF DELIVERY:** The delivery period is the essence of supply; hence it must be indicated specifically in the quotation. Mode of delivery, tentative size and weight of consignment may also be indicated in the quotation.

14. **PERFORMANCE SECURITY:** All the successful bidders will have to submit the Performance Bank Guarantee or establish a Standby Letter of Credit (SLOC) or a Bankers cheque / or FDR pledged in favour of DIRECTOR, NPL for required amount as per payment terms mentioned at clause 15 below except where supplier opts for release of amount equivalent to PBG after expiry of warranty period. The PBG format shall be provided to the successful bidder later on along with the purchase order.

15. **PAYMENT CONDITION:**

   A. **FOR INDIGENEOUS SUPPLIES:**
   
   Payment on Bill Basis after supply: For local supplies the payment will be made only after satisfactory installation, commissioning and performance of the equipment at National Physical Laboratory, New Delhi and after certification by our technical expert/scientist. However, supplier will be required either to submit performance bank guarantee for 10% amount of the total value of equipment, after installation of the material, valid up to 60 days after the expiry of warranty period or the equivalent amount shall be released after expiry of the satisfactory warranty period.

   B. **FOR IMPORTS:**
   
   The payment against imports shall be made through irrevocable L/C. L/C will be opened for 100% FOB value. 90% of L/C amount shall be released on presentation of complete and clear shipping documents and remaining 10% shall be released after installation/demonstration/commissioning, subject to submission of PBG of equivalent amount to cover the warranty period. The PBG should remain valid up to 60 days after the expiry of warranty period. In case of non-submission of PBG after installations/demonstration/commissioning, remaining payment i.e. 10% will be released only after the completion of warranty period.

16. **COMMENCEMENT OF WARRANTY PERIOD:** The warranty period of an item shall commence from the date of receipt of the item in good working condition and satisfactory installation/commissioning/demonstration at the project site in National Physical Laboratory, New Delhi. The warranty period and validity of Performance Guarantee shall be extended for the period of delay in satisfactory installation and delay in warranty services.

17. **NO ADVANCE PAYMENT:** No advance payment will be made to any supplier.

18. **INSTALLATION:** The equipment should be installed/commissioned and demonstrated, by the supplier at the lab immediately but in any case within TWO MONTHS after receipt of the item in the lab and the same will be put under operation to the satisfaction of our technical expert/Scientist who will test the performance of the equipment. No separate charges for installation etc. will be paid to the party beyond the quoted prices.

19. **GUARANTEE/WARANTEE:** The equipment/instrument must be guaranteed/warranted for a period of at least one year, if not specifically mentioned otherwise in the specifications sheet, from the date of its satisfactory installation/commissioning against all manufacturing defects. If the equipment is found defective during this period the whole equipment or part thereof will have to be replaced/repaired by the supplier free of cost at the lab. or at site of the supplier for which ‘to and fro’ expenses will be borne by the supplier. However, if the items are guaranteed for a period of more than one year, it may be specifically mentioned in the quotation.

20. **SPARE PARTS:** Availability of spare parts of the equipment/instrument must be guaranteed for a period of at least seven years from the date of supply.

21. **AFTER SALES SERVICES:** It should be clearly mentioned in the quotation whether the after sales services during and after the completion of warranty shall be provided directly by the supplier or their authorized agent/representative. Terms of the after sales services, if any, may be mentioned in the offer. However, in both the cases the original supplier shall be responsible for poor performance/services.
22. **INSPECTION :**
   a. The inspection of the system will be done by our technical expert /Scientist in the presence of firm’s representative.
   b. In case of receipt of the material in short supply or damaged condition the supplier will have to arrange the supplies/ replacement of goods free of cost pending the settlement of the insurance case wherever applicable on FOR at the lab. or CIF basis till satisfactory installation of the system.
   c. The supplier should arrange for physical Inspection of the items directly or through their authorized representative within seven days of arrival of the consignment failing which they will be responsible for the losses. After the shipment is effected, the supplier/its representative/Indian agents must remain in touch with the lab/instit. to ascertain the date of arrival of consignment.

23. **AUTHORIZATION OF INDIAN AGENTS & INDIAN REPRESENTATIVE:**
   a. In case there is involvement of an /Indian agent/representative in any form as mentioned at (b) below, an authority letter / copy of agreement from the principal manufacturer must be submitted with the quotation.
   b. Where quoting party/Indian representative claims to be the subsidiary or branch office or an authorized representative of the principal foreign manufacturer/supplier in India, then a copy of approval from RBI/Ministry for operating business in India as Subsidiary/Branch/Liaison office or Joint-Venture may be submitted with offer.
   c. The details of all supplies involving the foreign exchange shall be furnished to the Enforcement Directorate, New Delhi as per rule. It may be noted that only the quoting parties & their principals shall be responsible for violation of Foreign Exchange Management Act (FEMA) for not declaring the actual bilateral mutual interests, if any.
   d. Indian agency commission shall be paid only to the Indian Agents in Indian Rupee out of the quoted FOB/Ex-works prices, after receipt of goods in good working condition & satisfactory installation/demonstration/commissioning of the items.

24. **USERS LIST :**
   a. The list of users specifically for the same model/make of the quoted item (not the list of general users) along with the complete name, address & contact numbers of the user organizations/persons may be submitted with the quotation along with the performance certificates from all/some of them.
   b. If you have supplied identical or similar equipment to other CSIR Labs./Instts., the details of such supplies for the preceding three years shall be given together with the prices finally paid.

25. **PENALTY CLAUSE FOR LATE DELIVERY & LATE INSTALLATION:**
   a. Subject to operation of Force Majeure, time for delivery and acceptance is the essence of this contract. The supplier shall arrange to ship the ordered materials within the delivery period mentioned in the order unless extended with/without penalty.
   b. In case of delay in supply and/or late installation of the equipment/instrument on part of the supplier, a penalty @ 0.5% per week of Order/FOB value will be charged for delayed period subject to a maximum of 10% of order/FOB value.
   c. If the delay in the shipment of the ordered materials attributable to the supplier exceeds agreed time period from the date of original agreed upon date of shipment and extended with/without penalty, the National Physical Laboratory, New Delhi shall have the right to cancel the contract/purchase order and recover the liquidated damages from other dues of the party or by legal means. It will also affect the other/future business dealings with such suppliers.

26. **TRAINING:** Wherever needed, Our Scientist/Technical persons should be trained by the supplier at the project site free of cost. In case the person is to be trained at supplier’s site abroad or in India it should be mentioned in the quotation clearly. The supplier should bear all the expenses for such training including ‘to & fro’ fares and lodging & boarding charges.

27. **NON-SUBMISSION OF TENDER:** In case you are unable to submit your quotation against our tender enquiry we would appreciate and expect a note of regret from your side giving in brief, reasons for not quoting.

28. **DELETION OF NAME:** Names of bidders, backing-out/defaulting after opening of tenders will be recommended for deletion from the list of suppliers in addition to forfeiture of EMD submitted by them, if any.
29. **LATE/ DELAYED/ UNSOLICITED QUOTATION:** Late or delayed/ Unsolicited quotations/offers shall not be considered at all. These will be returned to the firms as it is. Post tender revisions/corrections shall also not be considered.

30. **ACCEPTANCE OR REJECTION OF OFFER:** The Director, National Physical Laboratory, New Delhi reserves the right to accept or reject any quotation/tender in part or full without assigning any reason thereof. The successful bidder should submit Order acceptance within 15 days from the date of issue.

31. **PAGE NUMBERING & SIGNATURES:** Your offer should be a page numbered and signed by an authorized signatory giving his/her name and designation below the signatures.

32. **INTERIM ENQUIRIES:** No interim inquiries will be attended.

33. **FORCE MAJEURE:** The Supplier shall not be liable for forfeiture of its performance bank guarantee, liquidated damages or termination for default, if and to the extent that, it’s delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure. For purposes of this Clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

34. **DISPUTE SETTLEMENT:** All disputes arising out of this contract shall be referred to the sole arbitration of the Director General of Council of Scientific & Industrial Research (CSIR) and Secretary, Department of Scientific & Industrial Research (DSIR) Govt. of India or his nominee, who is overall controlling authority of this laboratory as per the provisions of Indian Arbitration and Reconciliation Act 1996 and his award shall be final and binding on the parties to the dispute. However, in case of importers, the provisions related to Arbitration as per the United Nations Commission on International Trade Laws (UNCRTL) will be applicable and binding on both the parties. The venue of arbitration in both the above cases will be NEW DELHI (INDIA).

(Stores & Purchase Officer)

**Encl:**
1. Format for Compliance of Terms & Conditions.
2. Set of Specifications
FORMAT/QUESTIONNAIR FOR COMPLIANCE OF TERMS AND CONDITIONS

Tender No.: ______________________                       Due Date __________________

NOTE:
1. **Quotation will not be considered without submission of this format.**
2. If a particular question is not at all applicable please write NA in compliance part in Col. No. 4 below.
3. Kindly see the relevant terms & conditions of the tender document as mentioned in Col. No. 3 in each question before replying to the questions mentioned in Col. 2 below.

<table>
<thead>
<tr>
<th>SNo</th>
<th>Terms &amp; condition of Tender document</th>
<th>Relevant Clause No. of the tender terms &amp; conditions of the tender</th>
<th>Whether acceptable (say ‘Yes’ or ‘No’ (preferably use different colour ink for ‘No’)</th>
<th>Deviation from tender terms, if any, with reasons for noncompliance or alternative condition quoted for</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a.) Whether quotation is direct from Principal supplier/manufacturer or their own office in India (Please specify)</td>
<td>Clause 2(a)</td>
<td></td>
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<tr>
<td></td>
<td>b) Whether quotation is being submitted by Indian Agent/authorized distributor/dealer</td>
<td>Clause 2(a)</td>
<td></td>
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<td></td>
<td>c) Whether the agent is registered with DGS&amp;D/NSIC</td>
<td>Clause 4(a)</td>
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<tr>
<td>2</td>
<td>a) Whether the Techno-commercial and price bids (for two bid tender system only) have been kept in separate envelopes duly marked with “Techno-commercial Bid” and “Price Bids” respectively.</td>
<td>Clause 2(l)</td>
<td></td>
<td></td>
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<td></td>
<td>b) Whether the tender No., Due date &amp; Opening dates have been written outside all the envelopes.</td>
<td>Clause 2 (m)</td>
<td></td>
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<tr>
<td>3</td>
<td>Whether techno-commercial Bid contains EMD, technical literature/leaflets, detailed specifications &amp; commercial terms &amp; conditions etc. as applicable.</td>
<td>Clause 2(n)(A)</td>
<td></td>
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<tr>
<td>4</td>
<td>a) Whether the required EMD is being submitted with the quotation</td>
<td>Clause 4</td>
<td></td>
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<td></td>
<td>b) Please specify the form of EMD whether in the form of DD/bank guarantee or TDR/FDR (Please mention No., date &amp; amount of EMD documents.) or Bid Security Format at Annexure ‘C’</td>
<td>Clause 4</td>
<td></td>
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<tr>
<td></td>
<td>c) Pre-receipted bill for refund of EMD is enclosed (for bank drafts only)</td>
<td>Clause 4</td>
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</tbody>
</table>

| 5 | a) If the prices are on Ex-Works basis or FOB (names port of shipment) or FCA (named place of delivery abroad) | Clause 5 (A) & (B) |
|   | b) Whether specific amounts or percentage of expenses like packing, forwarding, handling, freight, insurance, documentation etc. have been mentioned in quotation separately in clear terms. | Clause 5(B), (C) & (D) |

| 6 | a) Whether prevailing rates of sales tax, excise duty & other govt. levies (for indigenous supplies) have been given in quotation | Clause 5 (A), (C) & (D) |

| 7 | Have you mentioned the validity period of the quotation as per our requirements | Clause 6 |

| 8 | a) Whether the Price reasonability Certificate is submitted with quotation | Clause 9 (b) |
|   | b) Whether copies of last two supply orders of the same item from other customers have been attached with the quotation | Clause 9 (c) |
|   | c) If there is any difference in prices of last two orders & those quoted to us. If yes, please give reasons for the same | Clause 9 (c) |
|   | d) Whether supplied in CSIR Labs. | Clause 9 (d) |

| 9 | Whether rates/amount of AMC after the warranty period is over has been mentioned | Clause 10 |

| 10 | Have you gone through the specification Clause & complied with the same | Clause 11 (A) & (B) |

<p>| 11 | Whether the Make/Brand, Model number and name of manufacturer has been mentioned in the quotation and Printed technical literature/leaflets of quoted items have been submitted | |</p>
<table>
<thead>
<tr>
<th>12</th>
<th>Whether compliance statement of specifications has been attached with the quotation.</th>
<th>Clause 12 (a) &amp; annexure- ‘B’</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>a) Whether the delivery period for supply of the items has been mentioned</td>
<td>Clause 13</td>
</tr>
<tr>
<td></td>
<td>b) Whether mode of delivery &amp; tentative size &amp; weight of the consignment has also been indicated</td>
<td>Clause 13</td>
</tr>
<tr>
<td>14</td>
<td>Do you agree to the submission of Performance Bank Guarantee/Standby L/C and have you mentioned in your quotation about this.</td>
<td>Clause 14</td>
</tr>
<tr>
<td>15</td>
<td>a) Do you agree with the payment terms for indigenous supplies?</td>
<td>Clause 15A</td>
</tr>
<tr>
<td></td>
<td>b) Do you agree with the payment terms for imports supplies?</td>
<td>Clause 15 B</td>
</tr>
<tr>
<td>16</td>
<td>Do you agree about the date of commencement of warranty period &amp; its extension is necessary.</td>
<td>Clause 16</td>
</tr>
<tr>
<td>17</td>
<td>a) Who will install/commission and demonstrate the equipment <strong>at lab. FREE OF COST</strong></td>
<td>Clause 18</td>
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<td>b) Will you be able to do it within a month</td>
<td>Clause 18</td>
</tr>
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<td>18</td>
<td>Have you mentioned the guarantee/warrantee period in your quotation and do you agree with guarantee clause?</td>
<td>Clause 19</td>
</tr>
<tr>
<td>19</td>
<td>Spare parts</td>
<td>Clause 20</td>
</tr>
<tr>
<td>20</td>
<td>After Sales service</td>
<td>Clause 21</td>
</tr>
<tr>
<td>21</td>
<td>a) Do you agree that on receipt of material in damaged condition or short supply you will replace the same on CIF basis, free of cost pending the settlement of the insurance claim?</td>
<td>Clause 22 (b)</td>
</tr>
<tr>
<td></td>
<td>b) Do you agree with the clause of physical inspection?</td>
<td>Clause 22 (c)</td>
</tr>
<tr>
<td>22</td>
<td><strong>For Import Cases only:</strong></td>
<td>Clause 23</td>
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<td>a) Whether the Indian agent is registered with DGS&amp;D</td>
<td>Clause 23</td>
</tr>
<tr>
<td></td>
<td>b) Whether the valid DGS&amp;D registration certificate has been enclosed with the offer</td>
<td>Clause 23 (b)</td>
</tr>
<tr>
<td></td>
<td>c) If the party is a subsidiary or corporate branch office of the foreign supplier, then whether copy of the approval from Reserve Bank of India is attached with the offer</td>
<td>Clause 23 (c)</td>
</tr>
<tr>
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<td>Whether list of specific user’s for the same item &amp; model as quoted along-with performance certificates from the users is submitted with offer</td>
<td>Clause 24</td>
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<tr>
<td>24</td>
<td>Whether you agree to the penalty clause for late delivery &amp; installation?</td>
<td>Clause 25 (a to d)</td>
</tr>
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<td>25</td>
<td>Whether training to our scientist/technical person <strong>will be given free of cost</strong>. If yes, have you specified in quotation whether it will be in our lab? Or at supplier’s site in India or abroad.</td>
<td>Clause 26</td>
</tr>
<tr>
<td>26</td>
<td>a) Whether all the pages have been page numbered?</td>
<td>Clause 31</td>
</tr>
<tr>
<td></td>
<td>b) Whether quotation has been signed and designation &amp; name of signatory mentioned.</td>
<td>Clause 31</td>
</tr>
<tr>
<td>27</td>
<td>Do you agree to settle the issue through the sole arbitration of the DG, CSIR or his nominee?</td>
<td>Clause 34</td>
</tr>
</tbody>
</table>

**Signatures of the authorized signatory**

**Name of the signatory**

**Designation**

**Name & Seal of the quoting party**

**Dated:**
## FORMAT OF COMPLIANCE STATEMENT OF SPECIFICATIONS

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Name of specifications/ part / Accessories of tender enquiry</th>
<th>Specifications of quoted Model/ Item</th>
<th>Compliance Whether “YES” Or “NO”</th>
<th>Deviation, if any, to be indicated in unambiguous terms</th>
<th>Whether the compliance / deviation is clearly mentioned in technical leaflet/ literature</th>
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BID SECURITY FORM

Whereas ................................................................. . . . . . . (Hereinafter called “the tenderer”) has submitted their offer dated .................. for the supply of ............................................................. (Hereinafter called “the tender”) against the purchaser’s tender enquiry No. _________________________________

KNOW ALL MEN by these presents that WE ................................................................. . . . . . . (Name of bank) of ................................................................. . . . . . . . . . . . . . . . . . . . (Name of country), having our registered office at ................................................................. . . . . . . . . . . . . . . . . . . . (Address of bank) (Hereinafter called the “Bank”), are bound unto ................................................................. . . . . . . . . . . . . . . . . . . . (Name of purchaser) (Hereinafter called “the purchaser”) in the sum of ................. for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this ........ day of........... 20........

THE CONDITIONS OF THESE OBLIGATIONS ARE:

1. If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
2. If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity.
3. If the tenderer fails to furnish the Performance Security for the due Performance of the contract.
4. Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

The guarantee shall remain in force up to and including forty five (45) days after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

........................................
(Signature of the authorized officer of the Bank)

Name and Designation of the Officer
Seal, Name & Address of the Bank and address of the branch
# PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder _________________________ Tender No. __________________________

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Description</th>
<th>Country of origin</th>
<th>Unit</th>
<th>Qty</th>
<th>Unit Price</th>
<th>Total price (5x6)</th>
<th>Charges for Insurance &amp; transportation to port/place of destination</th>
<th>Total Price (7+8)</th>
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</table>

- **FOB** (named port of shipment)
- **FCA** (named place of delivery)
- **Ocean**
- **Air**
- **CIF**

Total Bid price in foreign Currency ____________________________________________________ _________________ in words.

**Signature of Bidder**

Name:
Business Address:

**Note:**

(a) Indian agents name & address _______________________

(b) Installation, commissioning & training charges, if any _______________________

(c) Cost of Spares _______________________________

(d) The Indian agent’s commission shall paid in Indian Rupees only based on the Exchange Rate prevailing on the date of negotiation of documents.

(e) The cost of optional items shall be indicated separately.
**PRICE SCHEDULE FOR GOODS BEING OFFERED FROM INDIA**

**Name of the Bidder** _________________________  **Tender No.** _______________________________

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Country of Origin</th>
<th>Unit</th>
<th>Qty</th>
<th>Ex-Works. Ex-Warehouse, Ex-show room off shelf price (inclusive of all taxes already paid)</th>
<th>Total price Ex-Works. Ex-Warehouse, Ex-show room off shelf price (inclusive of all taxes already paid) 5x6</th>
<th>VAT &amp; other taxes like excise duty payable, if contract is awarded</th>
<th>Packing &amp; forwarding up to station of dispatch, if any</th>
<th>Charges of inland transport &amp; insurance up to Lab./Instit.</th>
<th>Installations, Commissioning &amp; training charges, If any</th>
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</table>

Total Bid price in foreign Currency ____________________________________________________________________________ in words.

**Signature of Bidder**

**Name:** ___________________________

**Business Address:** ___________________________

**Note:**

(a) The cost of optional items shall be indicated separately.

(b) Cost of spares ____________________________
MANUFACTURER’S AUTHORIZATION FORM

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer]

Date: [Insert date (as Day, month and year) of Bid submission]

Tender No.: [Insert number from Invitation for Bids]

To: [Insert complete name and address of Purchaser]

WHEREAS

We [insert complete name of Manufacturer], who are official manufacturers of [Insert type of goods manufactured] having factories at [insert full address of Manufacturer’s factories], do hereby authorize [insert complete name of Bidder] to submit a bid the purpose of which is to provide the following goods, manufactured by us [insert name and or brief description of the goods], and to subsequently negotiate and sign the contract.

We hereby extend our full guarantee and warranty in accordance with Clause 19 of the Terms and Conditions of Contract with respect to the Goods offered by the above firm.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title: [insert title]

Duly authorized to sign this Authorization on behalf of: [insert complete name of Bidder]

Dated on _________________________ day of __________________ [insert date of signing]
## PREVIOUS SUPPLY ORDERS FORMAT

Name of the Firm _______________________________________________________

<table>
<thead>
<tr>
<th>Order placed by (Full address of Purchaser)</th>
<th>Order No. and Date</th>
<th>Description and quantity of ordered equipment</th>
<th>Value of order</th>
<th>Date of completion of delivery as per contract</th>
<th>Date of actual completion of delivery</th>
<th>Remarks indicating reasons for late delivery, if any and justification for price difference of their supply order &amp; those quoted to us.</th>
<th>Has the equipment been installed satisfactorily? (Attach a certificate from the Purchaser/ Consigner)</th>
<th>Contact Person along with Telephone no., Fax no. and e-mail address.</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

Signature and Seal of the Manufacturer/ bidder ..........................................

Place:

Date:
BIDDER INFORMATION FORM

[The Bidder shall fill in this form in accordance with the instructions indicated below. No alterations to its format shall be
permitted and no substitutions shall be accepted. This should be done on the letter head of the firm]

Date: [Insert date (as day, month and year) of Bid Submission]
Tender No.: [Insert number from invitation of bids]

Page 1 of ___________ pages

1. Bidder’s Legal Name [Insert Bidder’s legal name]

2. In case of JV, legal name of each party: [Insert legal name of each party in JV]

3. Bidders actual or intended Country of Registration: [Insert actual or intended country of registration]

4. Bidder’s year of registration: [Insert Bidder’s year of registration]

5. Bidder’s Legal Address in Country of Registration: [Insert bidder’s legal address in country of registration]

6. Bidder’s Authorization Representative Information
   Name: [Insert Authorization Representative’s name]
   Address: [Insert Authorization Representative’s address]
   Telephone/Fax numbers: [Insert Authorization Representative’s telephone/fax numbers]
   Email address: [Insert Authorization Representative’s email address]

7. Attach are copies of original documents of: [Check the box(es) of the attached original documents]
   Articles of Incorporation or Registration of firm names in 1 above.

**************************************************************************