

Government of India  
Bhabha Atomic Research Centre  
Laser & Plasma Technology Division  
Trombay, Mumbai -85

REF: BTDG/LPTD/DRB/WORKS/2021/129

Date: 2/11/2021

**NOTICE INVITING TENDER**

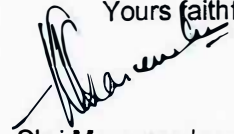
Fabrication and installation of high voltage power supply and data acquisition system for Langmuir probe diagnostic, as per scope of work in annexure B

Start of tender: 3 / 11/2021

End of tender: 12 / 11 / 2021

1. Sealed Quotations are invited, on behalf of "the President of India" by head L&PTD, Bhabha Atomic Research Centre, Trombay, and Mumbai-400085 for the above file as per the scope of work described in Tender document.
2. **Quotations are to be in printed letterhead / quotation format, which should consist of GST Registration Number registered with local ST authority / GST authority, PAN Number of the firm, etc. Quotations that are received in computer-generated form are to be construed as invalid and rejected.**
3. The quotations are to be submitted only through Registered / Speed post through Indian Postal Service.
4. The price part shall be submitted with taxes and duties quoted separately.
5. The quotations must reach, *us* by **due date** and must be sent in a sealed envelope *superscribed* with the above reference number and due date given above.
6. The address on the envelope should read:  
The Director,  
Beam Development Technology Group  
Bhabha Atomic Research Centre,  
Trombay, Mumbai - 400 085.  
(Attn.: Devendra Bhale)
7. Income Tax @2%, surcharge, cess on Income Tax as applicable will be deducted from the payment made to the contractor.
8. Payment will be made after satisfactory completion of work. Payment will be released only through ECS.
9. Head, Laser & Plasma Technology Division, BARC, reserves the right to accept/reject any or all quotations without assigning any reason.

Yours faithfully,



Shri Mascarenhas M L  
Head L&PTD

एम. एल. मेस्करेन्हास  
M. L. Mascarenhas  
अध्यक्ष/Head

लेसर अँड प्लाज्मा प्रौद्योगिकी प्रभाग  
Laser & Plasma Technology Division  
भा.प.अ. केंद्र/B.A.R.C.

## Annexure-B

### Scope of the work:

#### **Fabrication and installation of following parts as per specifications:**

The vendor has to develop a system, which can provide -200V to +200V DC excitation to the Langmuir probe. The system shall be suitably mounted and shall come with all required cable to allow control of power supply from -200V to 200V. At the same time, the current flowing through plasma shall generate a voltage across a shunt resistor. The system should be able to measure the current. All the cables required for connecting and using, the USB data acquisition modules shall be provided by vendor. The vendor shall provide mounting and arrangement. The system should be properly earthed to ensure working with DC plasma, 13.56 MHz RF plasma, microwave plasma and intermediate frequency plasma.

SR	Description	Quantity
1.	Industrial computer with monitor	01
2.	USB data acquisition module with required cable	01
3.	200V DC power supply, computer controlled	01
4.	Installation and demonstration at site	01

#### **Technical specification**

##### **1. Industrial computer**

- a. **4U Rackmount chassis (Black-Colour)**
- b. SMPS: 400W ATX Power Supply 100-230V AC.
- c. Intel® 9th/ 8th Gen (Coffee Lake-S) Core™ Processors with Q370 chipset
- d. CPU : Intel® Core™ i7-9700 Processor 12M Cache, up to 4.70 GHz with Cooler
- e. RAM : 8GB DDR4 RAM
- f. HDD : 1 TB Hard Disk
- g. COM port : 4 port RS232
- h. LAN Port : 2 \*10/100/1000TX
- i. Display Port : 1 x VGA, 1 x HDMI
- j. USB : 6 ( 2 Front & 4 Rear)
- k. Slot: 1 x PCIe x16 (Gen3), 1 x PCIe x8 (Gen3), 3 x PCIe x4 (Gen3), 2 x PCIe x1 (Gen3), 6 x USB 3.1 Gen1, 1 x mini-PCIe, 1 x M.2 Key M, 6 x SATA3
- l. Keyboard & Mouse: USB 110 keys
- m. Standard Keyboard with Mouse
- n. Windows: Windows 10 pro OEM 64 BIT OEM
- o. Monitor: 24"

##### **2. USB data acquisition module:**

- a. 200 kS/s, 16-Bit, 16-Ch Multifunction DAQ USB Module
- b. Analog input channels: 16
- c. Resolution analog input: 16 bit
- d. Up to 200 kS/s sampling rate
- e. 8-ch Digital input/8-ch digital output,

- f. 2-ch analog output, and 1 x 32-bit Counter.
  - g. Labview Driver Support 2018.
3. DC power supply:
- a. Input voltage :230VAC
  - b. Output Voltage :- 0-200VDC
  - c. Output Current: 0-300MAMP
  - d. Polarity changing using selector switch