

**SOPHISTICATED ANALYTICAL INSTRUMENTATION FACILITY
(SAIF)**

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**TENDER DOCUMENT FOR THE PURCHASE OF
500 MHz NMR SPECTROMETER**

Last Date for Receipt of Tender: 10 October, 2016 4:00 PM

DATE & TIME OF OPENING: To be notified later

PRICE Rs. 1000/-

SECTION – I

PROCEDURE FOR SUBMISSION OF BIDS

1. There will be **Two bid system** for this Tender: *Techno-Commercial bid* and *Financial bid*
2. The Techno-Commercial Bid of the Tender should be covered in one sealed cover super scribing the words “Techno-Commercial Bid”.

Likewise, the Financial Bid should also be covered in a **separate** sealed cover super scribing the words “Financial Bid”.

The two documents viz., Techno-Commercial bid and Financial bid covers prepared as above should be enclosed in a single sealed cover marked as under:

Tender for the supply of **500 MHz NMR SPECTROMETER**
Due on (last date for submission).
Name & Address of the Tenderer.....

Note: Price should not be indicated in the Techno-Commercial bid otherwise the Tender will be rejected

3. Tenders received after the due date will not be accepted. If the last date for submission of Tender falls on any declared holiday in the University, the next working day will be considered as the last date for the same.
4. The bids prepared by the Tenderer and all correspondence and documents relating to the bids, shall be written in English language
5. The contract for the supply of the items is non-transferable.
6. Tender/Offer should be type written, otherwise the same will be rejected
7. Each page of the tender document should be signed by the authorized signatory.
8. Each offer should be complete in all respects.
9. Telegraphic/electronic/conditional offers will not be accepted.

SECTION – II

TERMS AND CONDITIONS

1. **Opening of bids:** Techno-Commercial bids will be opened by the Committee after the closing date and studied. The Tenderers will be invited for presentation and clarifications if needed. Financial bids of the Tenderers complying with the prescribed Techno-commercial specifications will be opened by the Committee. Tenderers or their authorized agents may be present if they so desire during opening of the Tenders.
2. **Rejection of bids:** The Committee reserves the right to reject any or all offers without assigning any reason.
3. **EMD:** The Tender bid should accompany an EMD of minimum 2% of total value. The EMD should be made by means of an A/c payee DD in favour of the *Director SAIF, Panjab University, Chandigarh-160014* payable at Chandigarh. No interest is payable on EMD.
4. **Refund of EMD:** The EMD will be returned to unsuccessful Tenderer only after the Tenders are finalized. In case of successful Tenderer, it will be retained till the successful and complete installation of the equipment.
5. **CIF value and comparison of financial bids:** CIF value up to SAIF, Panjab University, Chandigarh (*shipment by air up to Delhi and insured up to the installation site*) should be quoted. and will be considered for comparison of bids. Bids quoted in foreign currency will be converted into Indian Currency at the exchange rate applicable on the day of opening of the financial bids for comparison purposes.
6. **Warranty Period:** The warranty period should be *five years (with spares)* from the date of installation with satisfactory performance as per specifications.
7. **PBG:** Tenderer selected for supply of equipment, will have to provide Performance Bank Guarantee (PBG) on any *scheduled bank situated in India, equivalent to 10 percent of the cost of the equipment* which should be valid until the expiry of the Warranty period. The PBG will be provided by the Company along with the letter of acceptance of the order by the Principals. LC will be opened in favor of the Principals only after obtaining the PBG.
8. **Terms of Payment:** LC will be opened for the 100% value of the equipment, 90% of the amount will be released after the shipment and remaining 10% after the installation of the equipment.
9. **Delivery period :** Delivery should be made within *120 days* of opening of the LC

10. **Delayed delivery:** If the delivery is not made within the due date for any reason, the Committee will have the right to impose penalty as under::
 - i First extension for one month or part thereof @ 2%.
 - ii Second extension for an additional month or part thereof @ 3%
11. **Non delivery beyond extended period:** If the Tenderer fails to execute the order within the second extension mentioned above or mutually agreed time frame, the order will be cancelled and EMD forfeited by the Dept. He will also be liable for all damages imposed by SAIF for non supply of equipment including the liability to pay the difference between the price accepted by him and those ultimately paid by the SAIF for the equipment, Such damages will be assessed by the Committee for the purchase of 500 MHz NMR Spectrometer.
12. Increased statutory levies and duties above the rate quoted in the offer will not be an excuse for the Tenderer to delay the supply beyond the date specified in the Tender.
13. **Validity of rates:** Rates quoted should be valid for at least *4 months* from the closing date of the tenders.
14. **Consistent pricing:** The rates quoted for the Equipments by the supplier shall in no case exceed the lowest price at which the supplier of this Equipments of identical description made to any other person/organization/Institution during the above said period and should attach an undertaking in this regard
15. **Installation requirements:** The Supplier will clearly mention installation requirements on our part in the *Techno-Commercial bid*.
16. **Installation time:** The company must install the equipment *within a period of two months* of the date of delivery of the equipment at SAIF. Chandigarh.
17. **Free Installation:** The equipment and software should be installed and tested to the specifications *free of cost*.
18. **Supporting Equipment:** The Tenderer will provide all requisite supporting equipments like isolation transformer, step down transformer, *if needed*. We need the complete installed system.
19. **Licensed Software and its up gradation:** *Ten user licenses* for analysis software should be provided. The certified/licensed software and programs should be the part of the supplies. There should be *free up gradation of software upto 10 years*
20. **Factory Acceptance Data:** Proposed acceptance criteria for the equipment should be provided by the supplier. in order to compare the performance against the quoted specifications. *Manufacturer's test certificate along with test conditions and results* is to be supplied along with the equipment.

21. Tenderers are advised to study all technical aspects and terms & Conditions, of the Tender documents. Submission of Tender shall be deemed to have been done after careful study and examination of the Tender Document with understanding of its implications.
22. **Only Manufacturers or Authorized dealers to bid:** The offering firm should clearly mention whether they are the manufacturer or authorized agent/dealer of the manufacturer. In case of agent for overseas manufacturer, a letter of authorization from the manufacturer should be submitted along with the offer. The Tenderer can also enclose the rates on the letterhead of the manufacturer if he has been authorized to do so by the manufacturer.
23. **Descriptive literature:** A set of specifications, description and illustrated literature of the equipment and related peripherals *should accompany the Techno-Commercial bid.*
24. **User and Service Manuals:** A set of User's manuals and Service manuals of the main instrument, attachments and related equipment (water chiller etc.) should be supplied with the equipment
25. **Equipment must be new:** The Tenderer must ensure that the equipment being offered is a new one and not refurbished or repaired one.
26. **Defective Equipment:** If any of the equipment supplied by the Tenderer is found to be substandard, refurbished, unmerchantable or not in accordance with the description /specification or otherwise faulty, the committee will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the Tenderer with 18% interest if such payment for such equipment has already been made to him.
27. All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced within 45 days on receipt of the intimation from this office at the cost and risk of supplier including all other charges.
28. **Damage during transit:** In case of any mishappening /damage to equipment and supplies during the carriage of supplies from the origin of equipment to the installation site, the supplier has to replace it with new equipment/supplies immediately at his own risk. Supplier will settle his claim with the insurance company as per his convenience. The SAIF will not be liable to any type of losses in any form.
29. **Legal jurisdiction:** Any dispute in this regard of any term of the offer and on the supply of equipment is subject to *Chandigarh jurisdiction* only.

30. **Training** Four weeks training should be provided free of charge at the premises of SAIF out of which one week should be on equipment usage & software and three weeks in maintenance twice over a span of one year.
31. **Availability of Spares:** The Tenderer must assure the availability of spares for servicing of equipment *for at least 10 years*. Supplier should give an undertaking that spares parts will be supplied within the specified periods as and when ordered.
32. **SAIF Infrastructure:** SAIF will provide required air conditioned space, *single phase power supply* with required electricity outlets.
33. **Clearance:** The Principals will do all types of clearance work to deliver the equipment at the site of installation. Department will provide all types of documentary support including Customs Duty Clearance. Principals will themselves have to procure any requisite permission from the Govt. of country of origin of equipment.
34. **Agency Commission:** Agency commission, if any, should be clearly mentioned by the Principals in the form of a certificate and will be paid in Indian Currency.
35. **Bank Charges:** Bank charges in India will be borne by the Panjab University and Bank charges abroad will be borne by the suppliers.
36. **Similar Models installed:** The Tenderer must mention in the *Techno-Commercial bid* the similar model of equipment installed in India *during the last two years* and the *addresses of contact persons at these places*.
37. **Application Specialist:** The Tenderer should mention in the *Techno-Commercial bid* the availability and *names* of *Application Specialist* and *Service Engineers* in the nearest regional office.
38. **Response Time:** The Tenderer should mention in the *Techno-Commercial bid* the response time for attending to a complaint about the equipment.
39. **Change of Indian Representatives:** The original manufacturer/Principals should give an undertaking that the aforementioned warranty and availability of spares clauses will be valid even in the case of change of their representatives in India.

Specifications for 500 MHz NMR Spectrometer

500 MHz NMR Spectrometer for advanced multi-dimensional solution state experiments.

1. Magnet:

- (a) Latest Technology based stable and actively shielded superconducting magnet (11.74 Tesla) with an operational frequency of 500 MHz for ^1H
- (b) Shortest possible 5G (radial from the centre of the magnet 0.6 m or less, and axial from the centre of the magnet 1.2 m or less) fringe field with advanced shielding technology.
- (c) Magnet should be 54 mm room temperature bore
- (d) Expected field drift 5 Hz/hr or less.
- (e) Liquid helium hold time of 365 days or more
Helium filling for 5 years by vendor
Vendor should commit to supply liquid Helium and keep the super conducting magnet Active
In case of magnet-quench during the installation or at subsequent times due to faulty design or any other technical failure, the necessary costs for recharging or replacing should be borne by the vendor.
- (f) Liquid Nitrogen minimum hold time of 14 days (specify the refill volume and total volume)
- (g) Liquid helium transfer line with accessories should be quoted.
- (h) Number of cryo-shims (minimum of five cryo-shims).
Minimum of 30 room temperature shims
High performance cryo- and room temperature shim system for optimal line shape.
- (i) Anti-vibration feet pad for dampening the floor vibrations, Suitable accessory for acquiring artifacts free data (Specify the damp-frequency limit)

2. Spectrometer Console:

- (a) Advanced feature based two broadband frequency generation independent identical RF channels (full frequency range generation) for ^1H , ^{13}C , ^{15}N , ^{31}P , ^{19}F and other active nuclei with highest frequency and phase resolution; fast switching time for all parameters, without any hidden delays along with its importance in the quality of the spectra. It should include wave form generators for pulse shaping, amplitude, phase and composite pulse decoupling generator, preamplifiers with standard filters and digital receiver control with oversampling and quadrature detection with digitizer's facility for complete elimination of quadrature spikes.
- (b) Digital lock channel. Lock system with high precision phase- and field-correction, corrections for short-term disturbances.
- (c) Advanced Detection with Digital Receiver. Over-sampling and on-line digital filtering along with complete elimination of the quadrature images/spikes, artifacts in the center of the NMR spectrum.
- (d) 2-Channel Amplifier System: Two high performance linear amplifier for observation- or decoupling of ^1H or ^{19}F , with 100 W or more pulse power maximum, and 300 W or more pulse power maximum in the range of ^{31}P to ^{15}N or better. All relevant parameters including power, frequency range, duty cycle, maximum pulse duration

etc. have to be explicitly specified.

Minimum 2 channel architecture with up gradation possibility

- (e) Acquisition system with a control of up to a minimum of two RF channels, should be expandable to more RF channels in near future.
- (f) Multinuclear preamplifier
- (g) 2H amplifier with integrated lock switch for 2H gradient shimming
- (h) Built-in tune/match display in the pre-amplifier.
- (i) Add-on filters for noise reduction if required.
- (j) Gradient system for Z-shielded gradient with a gradient strength of up to 50 G/cm or more for gradient NMR experiments in solution. PFG of any desired shape and gradient shimming capabilities.
- (k) Variable temperature unit with all components for both high and low temperature (to be Quoted Optionally)

3. Probes:

- (a) 5 mm multinuclear broadband direct probe head with Z-shielded gradient, capable of performing $^1\text{H}/^{13}\text{C}/^{15}\text{N}/^{31}\text{P}/^{19}\text{F}$ decoupled with ^1H NMR using the same probe head. With Automatic tuning and matching (ATM) unit

4. User Interface:

- (a) High performance state-of-the-art workstation (Windows operating system) for acquisition and processing that can be easily serviced in India in case of any fault: A high end Work station with latest configuration, minimum of 16 GB RAM at least 1 TB hard disk capacity or more with 24" LED display or better, latest available processor, CD-DVD read-write drives USB Ports High performance Laser printer (Color), High performance Laser printer (B/W) and other necessary accessories. One additional work station with processing software.
- (b) Licensed Software Modules include:
 - (i) Acquisition, Processing, Plotting, Structure Verification and Analysis-1D and 2D (HSQC, TOCSY, COSY, HETCOR, NOESY, HMBC, DOSY STD etc.), Experiment Simulation, Spectra Simulation, Multiplet Analysis, Teaching Software, Deconvolution, Automation, Projection Reconstruction Spectroscopy.
 - (ii) Structure Elucidation Software for Small molecules and biological macro molecules
 - I. Latest available Window based software for NMR acquisition and data processing.
 - II. Free updates for instrument lifetime
 - III. Additional 5 processing licences
- (c) A complete set of operational manuals should be provide. All required hardware and software documents, manuals installation CDs/DVDs etc. to be provided
All manuals (service and operational) should be provided as Hard copies as well as soft copies (on CDs)

5. Accessories:

- (a) An ISO-9001 certified imported oil-free scroll air-compressor complete with dryer with proper ratings and specification capable of catering all the needs, with a sufficiently big buffer tank along with the system.

- (b) Auto sampler with a capacity of 60 or more NMR samples with necessary accessories including spinners.
- (c) 200 high quality NMR tubes with caps
- (d) Spinners for low and high temperature applications 5 each
Spinners for room temperature operations 50

6. Power backup:

- (a) A suitable ISO-9001 certified make online UPS (10 KVA) for the whole system with a minimum backup of 2 hour or more.

7. Installation:

- (a) The liquid helium required for installation should be provided by the NMR supplier.

8. Training:

- (a) Initial on-site training to the staff for two weeks after successful installation
- (b) Comprehensive training for two persons for 2-3 weeks at the vendor's application laboratory in India (1 for operation and 1 for maintenance)

9. Optional Items:

- (a) 3rd Channel upgrade
- (b) 5 mm Tripple resonance ($^1\text{H}/^{13}\text{C}/^{15}\text{N}$) indirect probe with automatic tuning and matching.
- (c) Standard Samples.
Standard test samples for multinuclear studies
- (d) Skilled Manpower for smooth operation and maintenance of the instrument for 6 days in a week basis for 5 years (Quote separately)
- (e) Inverse Probe
- (f) Cryo Probe