

**E-TENDER NOTICE**

The Indian Institute of Technology (Indian School of Mines) Dhanbad invites Bids from eligible, qualified, and capable manufacturer/dealer/suppliers for “**NMR Spectrometer with Electronics and Console**”, according to the requirements as defined in the Tender document.

Sl. No	Tender No.	Particulars	Required Quantity	Amount of EMD
1.	CR-INS-CPPP-127-24-25	“NMR Spectrometer with Electronics and Console”.	1	Rs.18,00,000

Earnest Money Deposit (EMD) in form of Demand Draft should be drawn in favour of Registrar, IIT (ISM) Dhanbad payable at Dhanbad. EMD can also be deposited in the form of a Term Deposit Receipt/Fixed Deposit Receipt/Bank Guarantee drawn in favour of Registrar, IIT (ISM) Dhanbad. A scanned copy of EMD should be uploaded on [www.eprocure.gov.in](http://www.eprocure.gov.in) along with the technical bid.

The hard copy of the same in the original is to be sent to the address mentioned below duly super scribing the Tender Number and Name on the envelope and the same must reach in the IIT (ISM) Dhanbad on or before the due date and time for the opening of technical bid. If not received within 05 days after last date of submission of bid, the bid will be summarily rejected.

Sl. No.	Description	Date	Time
1	Tender Publication Date	16.10.2024	06:30 PM
2	Pre-Bid Conference date and time	23.10.2024	11:00 AM
3	Bid submission start date and time	24.10.2024	06:30 PM
4	Bid submission end date and time	16.11.2024	05:30 PM
5	Technical Bid opening date and time	18.11.2024	11:00 AM
6	Financial Bid opening	Technically qualified bidders will be informed about date and time of opening of financial bids through CPPP.	

IIT (ISM) Dhanbad reserves the right to accept or reject the tenders without assigning any reason. The original EMD should be sent to:

**Deputy Registrar (Purchase and Stores)**  
**IIT (ISM) Dhanbad,**  
**Distt. Dhanbad – 826004**  
**Jharkhand.**

**Deputy Registrar**  
**(Purchase and Stores) IIT (ISM) Dhanbad**

**Instructions to the bidders for online bid submission**

The bidders are required to submit their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal to prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal. More information for submitting online bids on the CPP Portal may be obtained at <https://eprocure.gov.in>.

**1. Registration:**

- (a) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in>) by clicking on the link “**Online bidder Enrollment**” on the CPP Portal which is free of charge.
- (b) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- (c) Bidders are advised to register their valid email addresses and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- (d) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India, with their profile.
- (e) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible for ensuring that they do not lend their DSC's to others which may lead to misuse.
- (f) Bidder then logs in to the site through the secured log-in by entering their user ID/ Password and the password of the DSC / e-Token.

**2. Searching for tender documents:**

- (a) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- (b) Once the bidders have selected the tenders they are interested in, they may download the required documents/tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS/E-mail in case there is any corrigendum issued to the tender document.
- (c) The bidder should make a note of the unique Tender ID assigned to each tender; in case they want to obtain any clarification/help from the Helpdesk.

**3. Assistance to bidders:**

- (a) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.
- (b) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

**4. Submission of the bid:**

All interested eligible bidders are requested to submit their bids online through CPP Portal: <http://eprocure.gov.in> as per the criteria given in this document:

(a) Technical Bid should be upload **(One single pdf containing all technical documents, duly filled and signed Annexures, copy of EMD etc.)** online in cover-1.

(b) Financial Bid should be upload online in cover-2.

Both Technical and Financial Bid covers should be placed online on the CPP Portal <http://eprocure.gov.in>.

(A) Technical bid:

Signed and Scanned copies of the technical bid documents must be submitted online on CPP Portal: <http://eprocure.gov.in>.

**List of Documents to be scanned and uploaded with Technical Bid (Under Cover-1). The enclosures have to be attached in the serial order as mentioned hereunder:**

- (i) Scanned copy of EMD deposited in the form of Demand Draft, Term deposit receipt/Fixed deposit receipt drawn in favour of Registrar, IIT (ISM) Dhanbad.
- (ii) A scanned copy of the certificate mentioning the status of the Firm/Agency/Company/proprietary/ partnership (as applicable) from the competent authority.
- (iii) Scanned copy of certificate from the competent authority indicating that the Firm/Agency/Company/proprietary/partnership authorized/registered to sale/ supply the tendered items i.e. MOA/ Registration Certificate etc.
- (iv) Scanned copy of PAN Card (as applicable to the type of tenderer) and Goods and Services Tax Registration Certificate.
- (v) Scanned copy of Tender Specific Authorization letter from the Original Equipment Manufacturer (OEM) in favour of the authorized agent to bid/negotiate/conclude the order against this Tender.
- (vi) Scanned copy of duly filled **Annexure-A, Annexure-B, Annexure-C, Annexure-D, Annexure-E, Annexure-F and Annexure-G.**
- (vii) Scanned copy of duly signed and stamped **Annexure-I, Annexure-II and Annexure-III.**
- (viii) Scanned copy of purchase/work/supply order as proof of past performance.
- (ix) Scanned Copy of Original catalogue/brochures of the items quoted.

**Note: (a) All the above-mentioned documents must be scanned and merged as a single PDF along with the Technical Bid. This single PDF of Technical Bid should be uploaded under Technical Cover in CPP Portal.**

(b) The technical bid may be summarily rejected, if these documents are not attached.

(c) For the tender value up to Rs. 10 Crores, Self-Certificate for local content, and for the tender value above Rs. 10 Crores, Certificate for local content from Statutory Auditor/Cost Auditor/Cost Accountant/CA, must be attached.

(B) Financial bid:

In preparing the financial bids, bidders are expected to consider the requirements and conditions laid down in this Tender document. The financial bids should be uploaded online as per the specified “**.xls**” format i.e. Price Bid Excel sheet attached as ‘**.xls**’ with the tender and based on the scope of work, service conditions and other terms of the Tender document.

## 5. Other instructions:

- (a) The detailed tender documents may be downloaded from <http://eprocure.gov.in> till the last date of submission of the tender. The tender can only be submitted online through CPP Portal <http://eprocure.gov.in>
- (b) Bids will be received only online mode through [www.eprocure.gov.in](http://www.eprocure.gov.in) up to the date & time mentioned in the E- TENDER NOTICE. No tender/bid will be accepted in physical form and any tender/bid received in such manner will be treated as non-bonafide tender/bid.
- (c) Bid will be opened on the scheduled date and time in the presence of tenderers/bidders or their authorized representatives (if any), who have uploaded their quotation/ bid and who wish to be present at the time of opening the bids.
- (d) All the bids must be valid for a period of 180 days from the last date of submission.
- (e) Bidders are requested to go through the instructions regarding filling and submission of the tender attached herewith. Bidders may forward their points on tender documents and/or depute their technical representative for discussion on tender/drawing and to clarify doubts, if any, on the stipulated pre-bid date.
- (f) Bidders shall upload a scanned copy of the Earnest Money Deposit (EMD) mentioned in the Notice of Tender and shall ensure the receipt of a hard copy of the same in the Purchase and Stores Section, IIT (ISM) Dhanbad, Distt. Dhanbad - 826004, Jharkhand, on or before the scheduled date of opening of bid. In case of failure of the same, the technical bid will not be evaluated.
- (g) In view of delays due to system failure or other communication related failures, it is suggested that the tender/bid be uploaded sufficiently in advance of the last due date and time fixed.
- (h) If any alterations to any of the condition, specifications laid down in the tender documents are found or any new condition is mentioned by the tenderer, in the tender document, such tender/bid will be rejected.
- (i) IIT (ISM) Dhanbad reserves the right to cancel the tender at any point of time without assigning any reason.

**TENDER FOR “NMR Spectrometer with Electronics and Console”****TERMS AND CONDITIONS**

1. The technical specifications are enclosed as **Annexure-III**. Bidders are required to go through the technical specifications carefully before submission of bids.
2. Tender Specific Authorization letter from Original Equipment Manufacturer (OEM) in favor of the bidder must be uploaded with technical bid for each item quoted.
3. The tenderer should upload detailed technical description/catalogue/brochure along with the technical bid. If not uploaded, the bid may be summarily rejected. If there is any deviation in specifications mentioned in the technical bid and Catalogue/Brochure, then the specifications given in the technical bid shall be considered and shall be treated as final.
4. The tenderer should not have been debarred or blacklisted by any Central / State Government. A self-attested certification to that effect must be uploaded with the technical bid in the prescribed format. The proforma of the certificate is enclosed with the tender as **Annexure-A**.
5. Different types of taxes levied should be quoted separately in a format as provided in the price bid. In case of consolidated prices, it will be pre-assumed that the quoted prices are inclusive of all taxes and other charges. Any taxes/charges which are not mentioned separately will be treated as included in the price quoted. No future correspondence in regard to taxes will be entertained.
6. All the bids must be valid for a period of 180 days from the last date of submission. In, exceptional circumstances, prior to expiry of the original time limit, the Institute may request the bidders to extend the period of validity for a specified additional period beyond the original validity of 180 days. The request and the bidders' responses shall be made in writing. The bidders, not agreeing for such extensions will be allowed to withdraw their bids without forfeiture of their Bid Security.
7. **EMD Exemption:** EMD exemption shall be given to those bidders who are registered with the Central Purchase Organization or NSIC or MICRO and Small Enterprises (MSEs) as defined in MSME Procurement Policy issued by the Department of Micro and Small Enterprises (MSME). To claim the exemption, the bidder must be offering goods manufactured by themselves or providing relevant services. Exemption will not be granted in case the bidder is acting as an agent for some other vendor. Bidders are required to upload necessary certificates to claim EMD exemption.

8. **Instruction to the bidder of countries which share land border with India (Rule 144(xi) GFRs).**

Any bidder from a country that shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Department for Promotion of Industry and Internal Trade (DPIIT). As per Office Memorandum No. F.7/10/2021-PPD (1) dated: 23.02.2023 issued by the Department of Expenditure (Ministry of Finance), Govt. of India, the bidder is required to submit an undertaking as per **Annexure-D**

9. **MII & Purchase Preference:**

The MII compliances shall be as per Govt. of India guidelines. All the bidders must upload undertaking as per **Annexure-C** with the Technical Bid.

10. **Evaluation Procedure:**

### **Phase-I: Technical Evaluation**

Technical evaluation will be done on the basis of documents submitted by the bidder in the technical bid. Hence bidders are required to enclose all relevant documents along with the technical bid. Discrepancy in relevant supporting documents shall lead to the rejection of technical bids.

### **Phase-II: Financial Evaluation**

- a. Financial bids of technically qualified bidders shall only be opened.
- b. The bid will be awarded to the L-1 bidder.

11. **Installation:** As per Annexure-III.

12. **Consumables and Accessories:** As per Annexure-III.

13. **Other essential accessories:** As per Annexure-III.

14. **Pre -Qualification Criteria:** As per Annexure-III.

15. **Liquidated damages (LD):**

All the items shall be delivered within 45 days from the date of issue of the supply order. If a bidder fails to deliver the item or any part thereof within the period prescribed for delivery, the Institute shall be entitled to recover as liquidated damages a sum equivalent to 1% (one percent) per week of the purchase order. The total damages shall not exceed 5% (five percent) of the value of the purchase order.

16. **Inspection:**

Institute authority will inspect the supplied item after delivery/installation, whichever is applicable. In case item is not supplied/installed (as the case may be) as per specifications of the purchase order or item is not working satisfactorily, then the same will be rejected.

17. **Training:**

The tenderer will have to provide training to the designated staff of the Institute after successful delivery/installation. The training should include operation, maintenance, troubleshooting, safety, and routine care of the item.

18. **Payment terms:** 100% payment shall be made by NEFT/RTGS against submission of bills in triplicate, only after satisfying following conditions:

- a. Successful delivery/Installation and commissioning by supplier.
- b. Inspection and testing of the items by the Institute authority.
- c. Training provided by the supplier.
- d. Supply of all manuals, Installation Certificate and calibration Certificate.
- e. Submission of Performance security.
- f. Submission of duly signed & stamped guarantee / warranty declaration certificate.
- g. Payment shall not be made for part supply/work.

19. **Extension of Delivery & Installation Period:**

If the supplier is unable to deliver/install and satisfactorily commission the order within the stipulated time, for which the supplier is responsible, he is required to request in writing for the extension of the delivery period before the stipulated date of delivery. It may be extended at the discretion of competent authority with/without imposing liquidated damages. In case the supplier has failed to complete the order within the stipulated time, the Institute reserves the right to cancel the purchase order and to forfeit performance security and/or EMD.

20. **Guarantee / Warranty:**

- a. **Minimum Guarantee / Warranty** is to be provided for **One years**. If the guarantee/warranty mentioned in the catalogue is less than the specified time, in that case, the supplier must provide for the remaining period. In case, the product comes with more than the stipulated guarantee/ warranty period, it will be provided by the supplier free of cost.
  - b. Guarantee / Warranty will commence from the date of the satisfactory installation/commissioning of equipment against the defect of any manufacturing and poor quality of components.
  - c. A signed & stamped guarantee/warranty declaration certificate will have to be furnished by the successful tenderer at the time of supply along with the bills.
  - d. In case the supplier has failed to repair/rectify the equipment during the guarantee/warranty period in a reasonable time not exceeding 3 weeks, the Institute may employ or pay other parties for such repairs of the equipment and all such damages, loss and expenses shall be recoverable from the supplier performance security.
21. **Service and support:** As per Annexure-III.
22. **Performance security**
- a. To ensure due performance of the item, performance security is to be furnished by the successful tenderer.
  - b. The performance security should be furnished within 21 days of the award of supply order.
  - c. Performance security should be for an amount of five percent (5%) of the value of the supply order.
  - d. Performance security may be furnished in the form of a Demand Draft/ Fixed Deposit Receipt / Bank Guarantee from a commercial bank in favour of Registrar IIT (ISM) Dhanbad, payable at Dhanbad.
  - e. Performance security should remain valid for a period of sixty days beyond the date of the guarantee/warranty. The performance security will be refunded without any interest, provided that the performance is satisfactory.
23. **Refund of EMD**
- a. EMD will be refunded without any interest to the successful tenderer on receipt of performance security.
  - b. The tenderer, who are not qualified for the tender either in technical bid or on any other grounds, their EMD will be refunded within 30 days from the award of the contract.
  - c. If supply order is placed and the successful tenderer fails or refuses to supply the item, in such case the EMD will be forfeited.
24. **Cancellation of tender:** IIT (ISM) Dhanbad reserves the right to cancel the tender at any point of time without assigning any reason.
25. **Legal:** Any dispute regarding the meaning, effect or interpretation of any clause of this contract/agreement shall be referred to the sole Arbitrator i.e. Director, IIT (ISM) Dhanbad who would act as the sole Arbitrator and proceedings of such arbitration shall be conducted in accordance with the provisions of the Indian Arbitration Act, 1940 or any statutory modification thereof. The venue of Arbitration shall be IIT (ISM) Dhanbad only and the language shall be English only. In case of litigation, if any, the District Court of Dhanbad (Jharkhand) shall have the jurisdiction for any such litigation.

## **Specifications for NMR Spectrometer with Electronics and Console**

**The NMR spectrometer should be based on state of the art 9.4 Tesla based (operational frequency of 500 MHz) Solution, Semisolid and Solid-state NMR spectrometer with the following specifications:**

<b>Detailed Specifications (Generic)</b>
<b>1. Magnet system (standard bore):</b>
i. The shortest possible radial ( $\leq 0.6\text{m}$ ) and axial distance ( $\leq 1.2\text{m}$ ) of stray (5 Gauss) field from the center of the magnet. Magnet system with built-in Electromagnetic Disturbance Suppression (EDS) using a proprietary technology for an efficient suppression of external disturbances (typically up to 99 %) like subways, railway lines and trams, corridor traffic, elevators, power lines or outside vehicular traffic.
ii. Overall Magnet dimensions (ceiling height requirements: ( $\leq 3\text{m}$ ) have to be specified along with Liquid Helium Transfer line.
iii. Drift rate of the magnetic field should be $\leq 5$ Hz/hour better. Very high field stability with a guaranteed drift rate of $< 10$ ppb / hr. Alarm functions for low helium level (MICS).
iv. Liquid Helium hold time should be minimum $\geq 365$ days or higher with auto level monitoring, recording and alarm. The Liquid Helium Refill volume should be less than 120 Ltrs .
v. Longest possible liquid $\text{N}_2$ hold time with auto level monitoring, recording and alarm.
vii. All support equipment for cryostat (e.g., liquid He and liq. $\text{N}_2$ transfer lines) should be quoted.
viii. Anti-vibration legs/stand and the lower limits on the frequency of vibrations damped ( $\geq 14\text{Hz}$ ) have to be specified.
ix. High performance cryo- and room temperature shim system for optimal line shape. Mention the numbers of State-of-the-art room temperature shims as well as cryo-shims for best line shape including line width and all other related items should be quoted. A Minimum of 36 Room Temperature shim systems and minimum 9 cryogenically cooled shim systems is desired.
x. All the accessories, software and hardware to perform automated and manual shimming should be included in the quotation.
xi. Deuterium Lock channel should be compatible with gradients and automated shimming hardware.
Xii. The magnet should be compatible with pneumatic/automatic sample load/spin/eject system
<b>2. Spectrometer Console:</b> The spectrometer should have two independent RF-channels (frequency range of operation should be specified) with best frequency and phase resolution; fast switching time for all parameters without any hidden delays. The configuration and bandwidth of each channel has to be specified. The console (electronics) should include:
i. Broad band frequency synthesizer should be present for each channel
ii. Each channel should have frequency, phase and amplitude shaping capabilities with simultaneous switching of the parameters possible in $< 12.5\text{ns}$
iii. Waveform generators (for pulse shaping) should be present for all channels. Multi Receiver Capability is a must due to the nature of samples. Receiver in each channel for sequential as well as parallel acquisition of nuclei (2 channels = 2 receivers). It is required to study of kinetic analysis in $^1\text{H}$ and $\text{P}31$ at the same time and in situ reaction monitoring purpose.
iv. Amplitude, phase and composite pulse decoupling generator.
v. Pre-amplifiers and filters for noise reduction
vi. High-power linear broadband amplifier (minimum of 100 W for $^1\text{H}$ channel and 500 W for X channel) to provide the shortest possible pulse-widths. Please specify all relevant parameters including power (Wattage), frequency range, duty cycle, maximum pulse duration etc.



vii. The electronics should be capable of handling/executing multi receiver experiments for simultaneous acquisition of 1D $^1\text{H}/^{15}\text{N}$ , $^1\text{H}/^{13}\text{C}$ , $^1\text{H}/^{19}\text{F}$ , $^1\text{H}/^{31}\text{P}$ one dimensional experiments in multi receiver mode.
viii. Transmitter controllers should be provided for each channel.
ix. ADC with high dynamic range and sampling rate. Please specify the resolution of the ADC (in bits) and the maximum sample rate.
x. Preamplifier for multinuclear observation, $^2\text{H}$ -lock, all necessary filters for noise and artifact reduction; Digital lock control unit and digital lock deceiver; deuterium amplifier with integrated lock switch for automatic gradient (room temperature) shimming and shim control boards.
xi. Magnetic field z-axis gradient unit (kindly specify the maximum gradient strength $\geq 50\text{G/cm}$ that can be generated with a minimum of 10 A external gradient amplifier) for the control for execution of gradient spectroscopy, gradient shimming, generation of pulsed field gradient (PFG) of desired shape and intensity, high quality PFG based solvent suppression, coherence selection and DOSY experiments etc.
xii. Variable temperature unit having broad temperature range (both low and high) capability is desired: A suitable control unit for high temperature of the order of $-150$ to $+150$ deg C is desired along with low temperature accessories. Please specify temperature ranges available for both magic angle spinning and static sample NMR work. Please specify resolution/accuracy/stability of temperature setting of the variable temperature unit.
xiii. Digital quadrature detection, ethernet based communication and control system for bi-directional connection to the host computer.
xiv. Magic Angle Spinning (MAS) accessory for magic angle spinning that can execute state of the art spinning controller for the highest possible spinning speed with indicator, pulse trigger for computer control etc. for performing all types of solid-state NMR experiments.
<b>1. Probes</b>
<b>3a. Liquid/solution state NMR probe:</b>
i. High resolution 5 mm variable temperature 500 MHz solution state probe(s) compatible with the magnet system. It should be equipped with single axis Z-gradient coils for execution of gradient spectroscopy, gradient shimming generation of pulsed field gradient (PGF) of desired shape, high quality PFG based solvent suppression, coherence selection and DOSY experiments etc. (kindly specify the maximum gradient strength that can be generated on the probe).
ii. The probe(s) should be fitted with a $^2\text{H}$ lock channel and it should also have an automatic tuning and matching accessory.
iii. Appropriate amplifiers and RF sources should be quoted in the electronics section to match this probe. The minimum operational temperature range for the probe should be $-150^\circ\text{C}$ to $+150^\circ\text{C}$ or better and it should include all consumables, accessories and controllers for low and high temperature operations.
<i>The following should be specified and supporting specification sheet along with one representative spectrum with parameter details that has been recorded on this type of probe should be included in the quote</i>
a) $90^\circ$ Pulse widths and power for $^1\text{H}$ , $^{31}\text{P}$ , $^{19}\text{F}$ , $^{13}\text{C}$ , $^{15}\text{N}$ etc., must meet the following criteria:- <b>Pulse Widths</b> $^1\text{H}$ pulse width $\leq 8\ \mu\text{s}$ $^{19}\text{F}$ pulse width $\leq 12\ \mu\text{s}$ $^{13}\text{C}$ pulse width $\leq 10\ \mu\text{s}$ $^{31}\text{P}$ pulse width $\leq 12\ \mu\text{s}$ $^{15}\text{N}$ pulse width $\leq 15\ \mu\text{s}$

b) Best resolution and line-shape (please specify the line-widths achievable) and against which standard. The Probe must show excellent sensitivity for both in single tune and dual tune mode and there must not be any drop of sensitivity of  $^1\text{H}$  ( $^{19}\text{F}$  decoupled) spectra.

Signal/Noise		
$^1\text{H}$ sensitivity	$\geq 800:1$	(0.1% EB; 200 Hz noise; LB=1 Hz; s=0.23 mm)
$^{19}\text{F}$ sensitivity ( $^1\text{H}$ dec)	$\geq 600:1$	(TFT; 1ppm noise; LB=0.5 Hz; s=0.38mm)
$^{13}\text{C}$ sensitivity	$\geq 275:1$	(ASTM; 40ppm noise; LB=3.5 Hz; s=0.23mm)
	$\geq 305:1$	(ASTM; 5ppm noise; LB=3.7 Hz; s=0.23mm)
$^{13}\text{C}$ sensitivity ( $^1\text{H}$ dec)	$\geq 310:1$	(10% EB; 40ppm noise; LB=0.3 Hz; s=0.23mm)
	$\geq 355:1$	(10% EB; 5ppm noise; LB=0.1 Hz; s=0.23mm)
$^{31}\text{P}$ sensitivity	$\geq 250:1$	(TPP; 5ppm noise; LB=5 Hz; s=0.38mm)
$^{15}\text{N}$ sensitivity	$\geq 40:1$	(90% Formamide; 2ppm noise; LB=0.3 Hz; s=0.38mm)

c) Specify temperature range under which the probe(s) can work

d) Suitable filters have to be included in the electronics for operation of the probe.

**3b. Comprehensive Multiphase (CMP- NMR) Probe: - A broad branded 4 mm double resonance probe for double usage HR-MAS and CP-MAS. The probe should be optimized for  $^1\text{H}$  observation with X-nuclei decoupling, the probe supports HR-MAS and solid-state NMR experiments. Probe equipped with Automatic Tuning and Matching Accessor (ATMA) including automated magic angle (MA) adjustment.** The probe should be able to carry out both CPMAS as well as HR-NMR experiments on the following nuclei to at least cover the following nuclei  $^1\text{H}$ ,  $^{19}\text{F}$  and  $^{31}\text{P}$ ,  $^{27}\text{Al}$ ,  $^{79}\text{Br}$ ,  $^{207}\text{Pb}$ ,  $^6\text{Li}$ ,  $^7\text{Li}$ ,  $^{11}\text{B}$ ,  $^{23}\text{Na}$ ,  $^{13}\text{C}$ ,  $^{29}\text{Si}$  and  $^{15}\text{N}$  nuclei. **Top loading facility for solid state Probe must be available in automation mode using autosampler/Manual mode.** There should be a single advanced probe for both solid state and semi solid NMR experiments. The probe should be built with high power circuitry, Magic Angle Spinning (MAS), should be fitted with a lock channel, pulse field gradients, and is fully susceptibility matched probe. This probe has to cover all HR-MAS aspects without compromising power handling to permit the full range of solution-, gel- and solid-state experiments available today. Following features must be present in the probe: -

**Optimized for  $^1\text{H}$  observation - BB decoupling or observation - BB range:  $^{15}\text{N}$ ,  $^{13}\text{C}$  and  $^{31}\text{P}$  etc with 2H lock channel - Gradient strength of 50G/cm with 10A gradient amplifier- Strong  $^1\text{H}$  decoupling and H/X cross polarization - Fast Automatic Tuning & Matching - Automatic magic angle adjustment - Max. rotation frequency: 15 kHz - Sample volume: 12, 25, 50 or 80 ul using dedicated rotors & inserts -.**

iv. Temperature range:  $-30\text{ }^\circ\text{C}$  to  $+80\text{ }^\circ\text{C}$  - VT gas: - Automatic probe recognition

v. Suitable power amplifiers and filters have to be included in the electronics for efficient operation of the probe

vi. Compatible sample rotors 10 nos. along with packing tools should be quoted

#### 4. Data storage/software/Peripherals comprising of the following:

i. Latest high-performance state of the art LINUX/Windows based workstations complete with pre-loaded software/data cards for data acquisition, processing and analyses including tools/software for complete automation of data acquisition and peripherals including LCD monitors should be quoted. Compatibility for both Windows and Linux is desirable for controlling NMR data acquisition and processing. Software controlled power up and power down of the entire spectrometer.

ii. All required hardware and software related documents, manuals, installation CDs/DVDs, cables, connectors, etc. should be provided

iii. The NMR software(s) should be state-of-the-art, most comprehensive. A minimum of 50 processing licenses should be included in the quote.

iv. The software should be capable of all up-to-date heteronuclear multi-dimensional NMR experiments including latest experiments for acquisition and reconstruction from sparse data and

multi-dimensional NMR spectroscopy. It should be capable of handling/executing multi receiver experiments under simultaneous acquisition in dual/multi receiver mode
v. Package should include all the latest pulse sequences for multi-dimensional NMR experiments available with the vendor. Please provide list of pulse sequences available for ready use.
vi. Licensed software/modules should include the following: Acquisition, processing, plotting, multiplet analysis, deconvolution, automation, quantitative NMR spectroscopy, DOSY experiments along with software assisted structure elucidation and confirmation.
vii. Any software upgrade (pulse sequence and processing) or new software (pulse sequence and processing) that are released during the warranty should be provided to the user free of cost. Software should be provided in DVD/CDs.
viii. An auto sampler capable of handling a minimum of 60 liquid/solid samples with 60 spinners.
ix. One LaserJet B/W printer
<b>5. Consumables and Accessories:</b>
i. One set of all relevant certified standard reference standards should be provided for full operational qualification and instrument performance verification (viz lineshape, sensitivity, resolution, pulse calibration)
ii. NMR tubes 5mm-1000 numbers
An additional latest high-performance state of the art LINUX/Windows based workstations complete with pre-loaded software/data cards for data acquisition, processing and analyses including tools/software for complete processing of data acquisition and peripherals including LCD monitors should be quoted. It should be compatible for both Windows and Linux is desirable for controlling, acquisition and/or processing NMR data.
iii. Essential spare parts for magnet/spectrometer
iv. initial supply of cryogen (liquid helium) required for installation should be provided by the NMR supplier at their expense
v. Associated basic toolkit for conducting simple maintenance and repair of the instrument should be supplied.
vi. Additional 10 nos. of spinners for NMR operations should be provided.
<b>6. Other essential accessories should be quoted</b>
i. A compatible online 10 KVA UPS with isolation transformer. Please specify items to be provided by the user such as UPS (with wattage), compressors, generators etc. required for installation and/or regular usage of the system
ii. A 3 HP scroll type (oil and moisture free) air compressor compatible with the instrument with an additional (min of 90L) S.S. buffer tank and one active alumina-based pressure swing dryer with suitable connectors fittings and filters
iii. Four nos. liquid N <sub>2</sub> dewars (50L) along with necessary accessories for refilling of cryogenics in the magnet should be provided.
<b>7. Installation</b>
i. Installation and commissioning should be the complete responsibility of the supplier.
ii. The supplier/ bidder needs to arrange all kinds of magnet hoisting mechanism through "A" Frame or chain Pulley. IIT Dhanbad will not provide anything in this regard.
iii. No extra payments will be made during the installation other than the ones quoted in the bid.
<b>8. Service and support:</b>
i. Comprehensive Maintenance Contract (CMC) for additional 4 years on all parts and spares including labor included) after completion of 1 year factory warranty.
ii. Regular upgrades to all software should be provided for entire service life of the instrument. The manufacturer has to take all the responsibilities (including financial, insurance etc.) for shipping and installation.

iii. Please quote the shortest possible delivery time of the complete system.
vi. On-site training should be provided to personnel for smooth operation and maintenance of the complete system.
vii. The Manufacturer / Bidder must have their appropriate technical support system available in Eastern India. The Bidder must have their experienced Application Scientist and Service Engineer located in Kolkata / Eastern Region of India. A list comprising of the details of Application Scientist and Service Engineer must be attached with the bid.
vii. Service/maintenance/repair request response should be initiated promptly within 02 days of registering the request.
<b>9. Price quoted should be FOR IIT (ISM) Dhanbad</b>
<b>10. Pre -Qualification Criteria: -</b>
i. The Manufacturer / Bidder must have completed at least 3 Installations of 500 MHz FT-NMR Spectrometer or higher versions of NMR in the Eastern Zone of India. (latest list of users of the said instrument should be provided).
ii. A detailed list of on-site installation requirements has to be provided by the vendor.

**Annexure-A**

**SELF-CERTIFIED DECLARATIONS FOR TAKING PART IN TENDER**

**a. Regarding blacklisting / debarring**

**b. Insolvency**

1. I / We \_\_\_ (Tenderer) hereby declare that the firm / agency / Company, namely M/s \_has not been declared as **insolvent** by the Central/State Government or any other Organization.

**AND**

2. I / We \_\_\_ (Tenderer) hereby declare that the firm / agency / Company, namely M/s \_\_\_\_\_ has not been **blacklisted or debarred** in the past by the Central/State Government or any other Organization from taking part in Government tenders in India.

**OR**

I / We \_\_\_\_\_ (Tenderer) hereby declare that the Firm/Agency/Company, namely M/s \_\_\_\_\_ was **blacklisted or debarred** by \_\_\_\_\_ (Name of organization) from taking part in Government tenders for a period of \_\_\_\_\_ years w.e.f. \_\_\_\_\_ to \_\_\_\_\_. The period is expired and now the Firm/Agency/Company is entitled to take part in Government tenders.

In case the above information is found to be false at any point of time, I / We am/are fully aware that the IIT (ISM) Dhanbad can cancel the purchase order and forfeit the EMD. Further, I will not claim any payment for any supplied item against cancelled purchase order.

**Date:**

**Place:**

**Signature:**

**Name:**

**Address:**

**Stamp:**

**Annexure-B**

**Details of quoted item**

Tender No. **CR-INS-CPPP-127-24-25**

Name of Tender: **“NMR Spectrometer with Electronics and Console”**

1. Name of the Equipment/Product\_\_\_\_\_
2. Name of original manufacturer\_\_\_\_\_
3. Make/Brand:\_\_\_\_\_
4. Model Number:\_\_\_\_\_ (provide complete literature/catalogue)
5. Warranty Period:\_\_\_\_\_ (months)
6. Delivery Period:\_\_\_\_\_ (days)
7. Specifications: Details of technical specifications of quoted item are as under

Note: Technical Specifications for quoted item should strictly as per Annexure-III)

Technical Specifications	Quantity

Date:

Place:

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Stamp:

**Annexure-C**

**Declaration for Local Content**

(To be given on Company Letter Head)- For the item value below Rs.10 Crores) (To be given by the Statutory Auditor/Cost Auditor/Cost Accountant/CA for the item value above Rs.10 Crores)

Date: \_\_\_\_\_

To,  
The Director,  
IIT (ISM) Dhanbad.

Sub: Declaration of Local content.

Tender No: **CR-INS-CPPP-127-24-25**

Name of offered the item:

In accordance with the order No. P-45021/2/2017-PP (BE-II) dated 04<sup>th</sup> June, 2020, I hereby declare that

- i) I am aware of the Order No. P-45021/2/2017-PP (BE-II) dated 04<sup>th</sup> June, 2020 and abides by the same.
- ii) I declare that for this tender, I am a **Class-I local supplier / Class-II local supplier / Non-local supplier** (Strike out whichever is not applicable) and classification is based on local content of goods/services/work offered by bidder in this tender.
- iii) **Local content (in percentage) for offered item is: \_\_\_\_\_%**

**Whereas 'Local Content'** means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

- iv) The local content for all inputs which constitute the said goods/services/works has been verified and bidder is responsible for the correctness of the claims made therein. I am fully aware that false declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.
- v) Details of items, amount and location(s) at which the local value addition is made:

Sl. No.	ITEM (S)	AMOUNT	LOCATION(S)
1.			
2.			
3.			
4.			
5.			

**Yours Faithfully,**

**(Signature)**  
**Seal**

**Certificate by the bidder**  
**(To be given on Company Letter Head)**

Date:

To,  
The Director,  
IIT (ISM) Dhanbad.

Subject: Undertaking regarding type of bidder.

Reference: Office Memorandum No. F.7/10/2021-PPD (1) dated: 23.02.2023 issued by  
Department of Expenditure, Ministry of Finance, Govt. of India.

Tender No. **CR-INS-CPPP-127-24-25**

Name of Tender: **“NMR Spectrometer with Electronics and Console”**

Sir,

1. I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority is attached.]
2. I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all the requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority is attached.]"

**Yours Faithfully,**

**(Signature of the Bidder)**

**Seal**



**Tender Acceptance Letter**  
**(To be given on Company Letter Head)**

To,  
The Director,  
IIT (ISM) Dhanbad.

Subject: Acceptance of Terms & Conditions of Tender.

Tender No. **CR-INS-CPPP-127-24-25**

Name of Tender: "Supply and Installation of **"NMR Spectrometer with Electronics and Console"**

Sir,

1. I / We hereby certify that I/we have read the entire tender document including all annexures. I/we have read all the terms and conditions of the tender documents. I/we hereby undertake that I/we shall abide by the terms/conditions/clauses mentioned in the tender document.
2. The corrigendum(s) issued from time to time by your department/ organization too have also been taken into consideration, while submitting this acceptance letter.
3. I / We hereby unconditionally accept the tender conditions of above-mentioned tender document(s) / corrigendum(s) in its totality/entirety.
4. I / We do hereby declare that our Firm has not been blacklisted/ debarred/ terminated/ banned by any Govt. Department/Public sector undertaking.
5. I / We certify that all information furnished by me/our firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the Earnest Money Deposit.

**Yours Faithfully,**

**(Signature of the Bidder)**

**Seal**

**Price Fall Clause Certificate**  
(To be given on Company Letter Head)

I/We \_\_\_\_\_  
undertake that we have not offered to supply / supplied / are not supplying same or similar products / systems or sub systems at a price lower than that offered against the **Tender no. CR-INS-CPPP-127-24-25** in respect of any Organization/Ministry/Department of the Govt. of India or its Subsidiaries or other PSU or any other private organization during the currency of the contract and if it is found at any stage that same or similar product/systems or sub systems was supplied by the bidder to any Organization/Ministry/Department of the Govt. of India or its Subsidiaries or other PSU or any other private organization at a lower price during the currency of the contract, then that very price will be applicable to the present case and the difference in the cost would be refunded by the bidder to buyer, if the contract has already been concluded.

**I/We also accept that:**

1. I/We have to submit a copy of the last (latest) purchase order for the similar/ordered item(s) received from any Organization/Ministry/Department of the Govt. of India or its Subsidiaries or other PSU or any other private organization.
2. We will inform the purchaser of offer to supply/supply of the similar/ordered item(s) at a lower rate to any Organization/Ministry/Department of the Govt. of India or its Subsidiaries or other PSU or any other private organization during the currency of the contract.

Date:

Signature of the Tenderer

Seal of the Firm

**BID/TENDER SPECIFIC AUTHORIZATION LETTER**  
(To be given on Company Letter Head)

To,  
The Director  
IIT(ISM), Dhanbad.

Tender No.: **CR-INS-CPPP-127-24-25**

Name of Tender: **“NMR Spectrometer with Electronics and Console”**

Equipment Name: \_\_\_\_\_.

Sir,

1. We, \_\_\_\_\_, who are established and reputable manufacturers of \_\_\_\_\_ having factories at \_\_\_\_\_ and \_\_\_\_\_ hereby authorize \_\_\_\_\_ (Name of Authorized Dealer/Distributor/Supplier) to bid, negotiate and conclude the contract with IIT (ISM) Dhanbad against this tender for the above goods manufactured by us.

2. No company or firm or individual other than \_\_\_\_\_ are authorized to bid, negotiate and conclude the contract in regard to this business against this specific tender.

3. We also hereby undertake to provide full guarantee/warranty /Comprehensive Annual Maintenance Contract as agreed by the bidder in the event the bidder is changed as the dealers, or the bidder fails to provide satisfactory after-sales and service during such period of Comprehensive Warranty / Comprehensive Annual Maintenance Contract and to supply all the spares/accessories/consumables etc. during the said period.

4. We hereby extend our full guarantee and warranty as per the conditions of the tender for the goods bided for supply against this tender by the above firm.

The authorization is valid up to \_\_\_\_\_

Yours faithfully,

(Signature of the Tenderer)

For and on behalf of M/s. \_\_\_\_\_

(Name of manufacturers)/Principal

Seal: