



राष्ट्रीय औषधीय शिक्षा तथा अनुसंधान संस्थान गुवाहाटी  
**NATIONAL INSTITUTE OF PHARMACEUTICAL  
EDUCATION AND RESEARCH GUWAHATI**

(Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Govt. of India)  
SilaKatamur (Halugurisuk), P.O.: Changsari, Dist: Kamrup, Assam, Pin: 781101.

**Minutes of the Pre Bid Committee Meeting held on  
04/03/2021 at 3:00 PM**

**Item Description:** NMR Spectrometer

**Reference No:** NIPERG/168/EQP/NMR/2020-21 dated: 25.02.2021

As per the terms and conditions of tender inquiry, the pre-bid meeting for procurement of NMR Spectrometer was held on 04 March, 2021 at 3:00 PM, in the conference hall NIPER- Guwahati.

**The following point has been discussed during the pre-Bid meeting and Bidders are here by requested to Quote Accordingly.**

**Detailed Specifications for 600 MHz NMR Spectrometer**

Latest version of 600 MHz NMR spectrometer for triple resonance applications with 4-channel electronic console and shielded super conducting magnet (4 Kelvin) (standard/narrow bore) with built-in pneumatic based anti-vibration system. The quoted spectrometer, RF accessories should be readily useable for fixing compatible cryogenically cooled probe and relevant accessories. Guaranteed after-sales support should be ensured by the vendor. Insurance in the event of accidental magnet quench.

S. No.	Specifications	Amendment if any
1.	<b>Superconducting Magnet with Long hold standard bore Cryostat:</b>  i. Latest version of super conducting Magnet equipped with liquid helium hold time of 365-days or more of liquid Helium. ii. Liquid Helium and Nitrogen level meters and evaporation flow meter with alarm function. iii. Magnet stand with < 5 Hz vibration damping accessory. iv. Transfer line for Liquid Helium and Nitrogen refilling. v. Cryogenically cooled shim system for optimal line shape.	No change

S. No.	Specifications	Amendment if any
2.	<p><b>Radiofrequency Electronics:</b></p> <ul style="list-style-type: none"> <li>i. 4 Broad band RF Channel with independent 4 Transmitters and Receivers.</li> <li>ii. Simultaneous and sequential acquisition of 4 nuclei through multiple receiver technology.</li> <li>iii. One <math>^1\text{H}/^{19}\text{F}</math> observe and decoupling channel and four broad band X-channels covering <math>^{13}\text{C}</math>, <math>^{15}\text{N}</math>, <math>^{31}\text{P}</math> and other X-nuclei.</li> <li>iv. Power amplifiers and pre-amplifiers suitable for solution state applications have to be provided.</li> <li>v. Frequency, phase, and amplitude shaping capability with simultaneous switching of the parameters possible in <math>&lt; 20</math> ns.</li> <li>vi. Broad-band frequency generation for all the four channels and with facility for upgradation with additional channels.</li> <li>vii. Communication between all Channels by fast Ethernet based communication system.</li> <li>viii. <math>^2\text{H}</math> decoupling, locking and gradient shimming facility. Should have more than 25 room temperature shims.</li> <li>ix. Latest version of pulse field gradient supply with gradient strengths 50G/cm or more for improved switching speeds, shimming and line-shape capabilities and high-quality water suppression in biological samples.</li> </ul>	<ul style="list-style-type: none"> <li>i. 4 Broad band RF Channel with independent 4 Transmitters with multi-receiver technologies.</li> <li>ii. Simultaneous and sequential acquisition of 2 or more nuclei through multiple receiver technology.</li> <li>iii. One <math>^1\text{H}/^{19}\text{F}</math> observe and decoupling channel and three broad band X-channels covering <math>^{13}\text{C}</math>, <math>^{15}\text{N}</math>, <math>^{31}\text{P}</math> / X-nuclei including <math>^2\text{H}</math> decoupling and locking facilities.</li> <li>iv. Power amplifiers and pre-amplifiers suitable for solution state applications have to be provided.</li> <li>v. Frequency, phase, and amplitude shaping capability with simultaneous switching of the parameters possible in <math>&lt; 20</math> ns.</li> <li>vi. Broad-band frequency generation for all the four channels and with facility for upgradation with additional channels.</li> <li>vii. Communication between all Channels by fast Ethernet based communication system.</li> <li>viii. <math>^2\text{H}</math> decoupling, locking and gradient shimming facility. Should have more than 25 room temperature shims.</li> <li>ix. Latest version of pulse field gradient supply with gradient strengths 30G/cm or more for improved switching speeds, shimming and line-shape capabilities and high-quality water suppression in biological samples.</li> </ul>

S. No.	Specifications	Amendment if any
3.	<p><b>Probes:</b></p> <ul style="list-style-type: none"> <li>i. Latest technology 5mm room temperature triple resonance H-C-BB PFG-VT inverse probe with <sup>2</sup>H locking and decoupling and automated tuning &amp; matching capabilities.</li> <li>ii. Latest technology 5 mm probe along with its required accessories for (H-F/X) <sup>19</sup>F-observe/<sup>1</sup>H-decoupling and broad band observe experiments. VT and gradient facility. The probe should be capable for routine <sup>1</sup>H-detected experiments also.</li> <li>iii. All the probes should be provided one extra glass quartz insert for receiver coils.</li> <li>iv. Cryo Probes facility should be quoted along with system to serve the need of pharmaceuticals and biologicals.</li> </ul>	<ul style="list-style-type: none"> <li>i. Latest technology 5 mm probe along with its required accessories for (H-F/X) <sup>19</sup>F-observe/<sup>1</sup>H-decoupling and broad band observe experiments. VT, automatic tuning and matching and gradient facility. The probe should be capable for routine <sup>1</sup>H-detected experiments also.</li> <li>ii. Nitrogen cooled 5mm Triple resonance probe for H-C-N with automatic Tuning and Matching and Gradient facility.</li> <li>iii. Omitted</li> <li>iv. Omitted</li> </ul>

S. No.	Specifications	Amendment if any
4.	<p><b>Other accessories:</b></p> <ul style="list-style-type: none"> <li>i. Variable temperature setup with temperature and gas flow monitoring and regulation for high and low temperature experiments. Long term temperature stability must be maintained (closed cycle refrigeration method) for experiments covering -40 deg C to +80 deg C or a better range. Suitable Nitrogen gas separator and air-dryers to meet the dew-point (about -100 deg C).</li> <li>ii. Workstation: Host computer with high-end processor, latest Windows operating system, 16 GB DDR RAM and 2TB Hard disk, 27" inch Flat-screen display and Laser printer.</li> <li>iii. Software for NMR acquisition and processing with two extra processing licenses. Software should contain licenses for Non-Uniform Sampling, NMR Simulation, molecular structure determination and dynamics analysis. Software should be compatible with 21CFR and GLP guidelines. Perpetual support for Software upgrade.</li> <li>iv. Set of standard samples in degassed and sealed 5mm NMR tube suitable for spectrometer calibration and automatic calibration and reporting software along with regulatory certificates should be provided.</li> <li>v. Spinners for low and high temperature applications compatible with 5 and 3 mm NMR tubes (5 each).</li> </ul>	<ul style="list-style-type: none"> <li>i. Variable temperature setup with temperature and gas flow monitoring and regulation for high and low temperature experiments. Long term temperature stability must be maintained (closed cycle refrigeration method) for experiments covering -40 deg C to +80 deg C or a better range. Suitable Nitrogen gas separator and air-dryers to meet the dew-point (about -100 deg C).</li> <li>ii. Workstation: Host computer with high-end processor, latest Windows operating system, 16 GB DDR RAM and 2TB Hard disk, 24" / 27" inch Flat-screen display and Laser printer.</li> <li>iii. Software for NMR acquisition and processing with two extra processing licenses. Software should contain licenses for Non-Uniform Sampling, NMR Simulation, molecular structure determination and dynamics analysis. Software should be compatible with 21CFR and GLP guidelines. Perpetual support for Software upgrade.</li> <li>iv. Set of standard samples in degassed and sealed 5mm NMR tube suitable for spectrometer calibration and automatic calibration and reporting software along with regulatory certificates should be provided.</li> <li>v. Spinners for low and high temperature applications compatible with 5 and 3 mm NMR tubes (5 each).</li> </ul>

S. No.	Specifications	Amendment if any
5.	<p><b>Installation and maintenance:</b></p> <ul style="list-style-type: none"> <li>i. The spectrometer supplier should provide all logistics for installation, such as transportation, rigging equipment, lifting devices, cryogenic liquid and gases.</li> <li>ii. Supply of Liquid Helium for the installation of the magnet and till its stabilization. In case of magnet-quench during the installation or at subsequent times due to any technical reason or failure, the supply (including transport) of the liquid Helium and Nitrogen, till the magnet is restored to normalcy, is the vendor's responsibility and the entire costs for cryogenics, recharging or replacing the magnet, should be the responsibility of the vendor at no additional cost to the Institute.</li> <li>iii. All manuals (service, technical, schematics and operational) should be provided as hard copies as well as on CDs., for the complete spectrometer including for the peripherals supplied/originated from the third-party vendors.</li> <li>iv. All the IQ, OQ and PQ reports along with documents required for 21CFR and GLP compliance should be provided.</li> <li>v. Comprehensive 5-year Warranty for complete NMR spectrometer from the date of satisfactory installation of the spectrometer. This should also include the supply and filling of liquid helium to the magnet as and when required till the end of the warranty period. Any damage during shipping will be the responsibility of the vendor and supplier. It has to change free of cost within timelines. NIPER-Guwahati will not be responsible for any damage in the transport and till installation.</li> <li>vi. As a part of the comprehensive warranty and its subsequent extensions if any, a service engineer for on-site maintenance of the spectrometer has to be provided, with no liabilities to institute in whatever manner.</li> <li>vii. The vendor should have established service base in Kolkata/Guwahati/North East region. All contact details, including email and phone numbers of the office/s and personnel should be provided.</li> </ul>	<p>No Change</p> <p>No Change</p> <p>No Change</p> <p>No Change</p> <p>Comprehensive<b>3-years Warranty</b>for complete NMR spectrometer from the date of satisfactory installation of the spectrometer. This should also include the supply and filling of liquid helium to the magnet as and when required till the end of the warranty period. Any damage during shipping will be the responsibility of the vendor and supplier. It has to change free of cost within timelines. NIPER-Guwahati will not be responsible for any damage in the transport and till installation</p> <p>No Change</p> <p>No Change</p>

S. No.	Specifications	Amendment if any
6.	<p><b>Training:</b></p> <ul style="list-style-type: none"><li>i. Training on applications and essential hardware maintenance should be provided to the staff at our site for 15 days during installation.</li><li>ii. There will be 15 days' trainings after installation till the warranty period for advanced application as per NIPERG requirement at mutually convenient date. Single visit will be minimum of two days. This should be quoted as an optional item</li></ul>	No Change

S. No.	Specifications	Amendment if any
7.	<p><b>Optional Items:</b></p> <ul style="list-style-type: none"> <li>i. Automatic sample changer with at least 50 sample wells along with spinners, other suitable accessories and sample feeding software with 21CFR and GLP guidelines should be provided.</li> <li>ii. Nitrogen cooled 5mm Triple resonance probe for H-C-N with automatic Tuning and Matching and Gradient facility.</li> <li>iii. Latest technology, 5 mm cryogenically cooled quadruple resonance <math>^1\text{H}</math> <math>\{^{13}\text{C}, ^{15}\text{N}, ^{31}\text{P}\}</math> PFG(Z / XYZ gradients) VT-inverse probe for bio-molecular applications with pre-amplifiers and related accessories. Preferentially, <math>^1\text{H}</math>, <math>^2\text{H}</math>, <math>^{13}\text{C}</math>, <math>^{31}\text{P}</math> and <math>^{15}\text{N}</math> cooled probe. High sensitivity with improved S/N ratio on all the channels. Low frequency noise suppression. Should be with <math>^2\text{H}</math> decoupling and automatic tuning &amp; matching facility. The price should include annual maintenance costs (maintenance parts and labor), if any, at least for a period of five years.</li> <li>iv. 5 mm double resonance broad band observe probe with Z-gradient, wide temperature range and automated tuning &amp; matching capabilities.</li> <li>v. <math>^1\text{H}/^{13}\text{C}</math> double resonance probe with VT (up to 150 C or better) and gradient shimming facility with and automated tuning &amp; matching capabilities.</li> <li>vi. Low temperature accessory (closed cycle refrigeration type) for cryogenic probe.</li> <li>vii. One high performance workstation for data processing with suitable RAM, additional TCP/IP Ethernet port and DVD<math>\pm</math>R/W drive and high resolution 24"/27" LCD monitor and high-speed /memory graphics adopter.</li> <li>viii. Color Laser duplex network-printer for high quality NMR plots.</li> <li>ix. Two tables suitable for work stations to perform NMR operations.</li> <li>x. Ten additional processing licenses.</li> <li>xi. Contract for any online supervision and maintenance of the functionality of 600 MHz spectrometer along with accessories from the manufacturer must be provided.</li> <li>xii. Thousand numbers of 5mm NMR tubes.</li> <li>xiii. NMR solvents: <math>\text{CDCl}_3</math> (500mL), <math>\text{CD}_3\text{OD}</math> (500mL), deuterated DMSO (500mL), deuterated acetonitrile (500mL) and deuterated water (500mL) should be supplied with the instrument.</li> </ul>	<ul style="list-style-type: none"> <li>i. Automatic sample changer with at least 50 sample wells along with spinners, other suitable accessories and sample feeding software with 21CFR and GLP guidelines should be provided.</li> <li>ii. Latest technology, 5 mm cryogenically cooled quadruple resonance <math>^1\text{H}</math> <math>\{^{13}\text{C}, ^{15}\text{N}, ^{31}\text{P}\}</math> PFG(Z / XYZ gradients) VT-inverse probe for bio-molecular applications with pre-amplifiers and related accessories. Preferentially, <math>^1\text{H}</math>, <math>^2\text{H}</math>, <math>^{13}\text{C}</math>, <math>^{31}\text{P}</math> and <math>^{15}\text{N}</math> cooled probe. High sensitivity with improved S/N ratio on all the channels. Low frequency noise suppression. Should be with <math>^2\text{H}</math> decoupling and automatic tuning &amp; matching facility. The price should include annual maintenance costs (maintenance parts and labor), if any, at least for a period of five years.</li> <li>iii. Latest technology 5mm room temperature triple resonance H-C-BB PFG-VT inverse probe with <math>^2\text{H}</math> locking and decoupling and automated tuning &amp; matching capabilities.</li> <li>iv. 5 mm double resonance broad band observe probe with Z-gradient, wide temperature range and automated tuning &amp; matching capabilities.</li> <li>v. <math>^{13}\text{C}-^1\text{H}</math> double resonance probe with VT (up to 150 C or better) and gradient shimming facility with and automated tuning &amp; matching capabilities.</li> <li>vi. Low temperature accessory (closed cycle refrigeration type) for cryogenic probe.</li> <li>vii. One high performance workstation for data processing with suitable RAM, additional TCP/IP Ethernet port and DVD<math>\pm</math>R/W drive and high resolution 24"/27" LCD monitor and high-speed /memory graphics adopter.</li> </ul>

	<p>xiv. One box of rewritable DVD disks (minimum 100 numbers) should be provided.</p>	<p>viii. Color Laser duplex network-printer for high quality NMR plots.</p> <p>ix. Two tables suitable for work stations to perform NMR operations.</p> <p>x. Ten additional processing licenses.</p> <p>xi. Contract for any online supervision and maintenance of the functionality of 600 MHz spectrometer along with accessories from the manufacturer must be provided.</p> <p>xii. Thousand numbers of 5mm NMR tubes.</p> <p><b>xiii. Omitted.</b></p> <p>xiv. One box of rewritable DVD disks (minimum 100 numbers) should be provided.</p>
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S. No.	Specifications	Amendment if any
8.	<p><b>Optional Indigenous items</b></p> <ul style="list-style-type: none"> <li>i. Suitable on-line true sine wave UPS and batteries with two hours back up time for supporting entire 600MHz spectrometer and its additional accessories. UPS should also cover 5 years warranty including batteries. Battery stand should be also supplied along with UPS to keep batteries.</li> <li>ii. Suitable air-compressor (screw) with in-built refrigerated dryer, Oil-free at least 10 bar pressure, with &gt; 90 CFM flow rate. Suitable high-efficient air-filters (oil, moisture and dust-0.001 micron) and compressed air-dryer (desiccant type) for moisture-free pneumatic operations. Supply of these original filter elements and other required for periodic replacements (wear &amp; tear), for five years.</li> <li>iii. Three Cryocans (50-55 lit each) with liquid nitrogen transfer setup.</li> <li>iv. Manpower: Manpower for 3 years should be quoted as an optional item. PhD Pharmacy/Analytical Chemistry/Chemistry or M.Sc. (Analytical chemistry/chemistry) With 4 years' experience Prior experience in NMR handling preferable. Salary: Rs. 50,000/- consolidated per month with 5% increment every year</li> </ul>	<ul style="list-style-type: none"> <li>i. Suitable on-line true sine wave UPS and batteries with two hours back up time for supporting entire 600MHz spectrometer and its additional accessories. UPS should also cover <b>3years'</b> warranty including batteries. Battery stand should be also supplied along with UPS to keep batteries.</li> <li>ii. Suitable air-compressor (screw) with in-built refrigerated dryer, Oil-free at least 10 bar pressure, with &gt; 90 CFM flow rate. Suitable high-efficient air-filters (oil, moisture and dust-0.001 micron) and compressed air-dryer (desiccant type) for moisture-free pneumatic operations. Supply of these original filter elements and other required for periodic replacements (wear &amp; tear), for five years.</li> <li>iii. Three Cryocans (50-55 lit each) with liquid nitrogen transfer setup.</li> </ul> <p>Manpower: Manpower for 3 years should be quoted as an optional item. PhD Pharmacy/Analytical Chemistry/Chemistry or M.Sc. (Analytical chemistry/chemistry) With 4 years' experience Prior experience in NMR handling preferable. Salary: Rs. 50,000/- consolidated per month with 5% increment every year</p>

S. No.	Specifications	Amendment if any
9.	<p><b>General information:</b></p> <ol style="list-style-type: none"> <li>1. NIPER-Guwahati will provide empty room with electrical connections and supplier must complete full installation including UPS installation also.</li> <li>2. The technical specifications should be quoted in the manner as described in the technical specifications document of the tender. A compliance report should be attached with the tender regard.</li> <li>3. The vendor should have installed at least 600 MHz or higher NMR spectrometer, equipped with cryogenic probe any available in India.</li> <li>4. The vendor should provide the total number of installed 600 MHz NMR instruments installed by the Vendor in India as well as throughout country.</li> <li>5. A documentary/on-site evidence to meet this requirement after-sale support should be produced along with the documents.</li> <li>6. Complete product and technical catalogues describing required basic and optional items should be produced.</li> <li>7. Price for each item / accessory of the spectrometer should be quoted separately.</li> <li>8. Software upgrades should be made by the vendor or manufacturer when the new versions are released by the manufacturer vendor at no additional cost to the institute.</li> <li>9. Price for the installation charges if any, should be quoted separately.</li> <li>10. In case of magnet-quench during the installation or at subsequent times due to faulty design, the necessary costs for recharging or replacing should be borne by the vendor.</li> <li>11. Due to the constraint of time, extension of the last-date for submitting the technical/commercial bids and partial submission of bids etc., are NOT allowed.</li> </ol> <p><b>Penalty Clause:</b> If the NMR spectrometer and its associate accessories are partly /completely non-functional for more than one week (after the receipt of the complaint from institute) a penalty recommended by the Technical evaluation committee will be imposed. The warranty period will be extended for the period of the instrument's down-time, during the warranty period.</p>	No change
10.		All the items should be quoted by the supplier. Shortage of the liquid helium will be responsibility of the suppliers. If the magnet will be quenched by short supply of the liquid helium, it will be the responsibility of the supplier

S. No.	Specifications	Queries received from Vendor	Amendment if any
11.	<p>Payment Terms:</p> <p>As a matter of policy being a Government institution no advance payments can be made to suppliers. The following payment terms may please be noted:</p> <p>80% payment after receipt and satisfactory installation, demonstration and acceptance by user department. Balance 20% payment after watching performance for 30 days and after receiving performance bank guarantee to cover warranty obligations.</p> <p>For imported items:</p> <p>A letter of credit will be established for 100% value with the following stipulations: 50% payment will be released against physical delivery of items at NIPER Guwahati in good condition.</p> <p>40% payment deducting Indian agency commission component after satisfactory installation, commissioning, demonstration, training etc. The component of Indian agency commission will be released separately in equivalent Indian currency to Indian agent against submission of their claim.</p> <p>Balance 10% will be released after receiving performance bank guarantee to cover warranty obligation</p>	<p>for Imported Items:</p> <p>Page no.5 Sl.no. 12: Our Standard Payment terms is 100% LC with 90% payable at Shipment against Shipping documents and remaining 10% after completion of Installation and acceptance and after submission of PBG</p> <p>The Payment should be made by confirmed irrevocable letter of credit (I/C) 100%PAYABLE at sight.</p> <p>The L/C should be in favour of Jeol Asia PTE Ltd.90% OF THE LC amount should be released against submission of clear and confirmed shipping documents and rest 10% against installation and satisfactory demonstration of the equipment at NIPER Guwahati site</p>	<p>The payment terms remains same as mentioned in the tender document.</p>

The Last date for the submission of the tender document is 18.03.2021.

The other terms and conditions remains same as mentioned in the tender document.

Sd/-

Stores and Purchase officer

Sd/-

Registrar Incharge