

Additional/Special Terms & Conditions for supply of Isotope Ratio Mass Spectrometer

GEM/Bid No: GEM/2025/B/6462437 dated 17.07.2025

Director, Birbal Sahni Institute of Palaeosciences, Lucknow- 226 007(India) invite a tender (Parts-I Technical Bid, Part-II Commercial Bid) in through GeM Portal from (i) either manufacturer or (ii) an authorized agent for the equipment/item under two bid system. Supply of Scientific Equipment with accessories as under:

Isotope Ratio Mass Spectrometer Technical Specification

Isotope ratio mass spectrometer
The IRMS should feature an accelerating voltage of 5,000 volts or above
Absolute sensitivity of CO ₂ should be equal to or better than 1100 molecules/ion in continuous flow mode and 800 molecules/ion in dual inlet mode.
The instrument should have a mass range of 2 to 96 AMU at the full range of accelerating voltage with an electromagnetic analyzer for the separation of masses.
Mass resolution of 110 or better at 10% valley definition.
Dynamic range (amplifier) 50 Volts or above
IRMS should have a universal triple collector array along with collector(s) for Hydrogen measurement; the collector array should measure isotopic ratios of H, C, N, O and S.
Source Linearity must be better than 0.02‰/nA for CO ₂ (45/44).
For hydrogen measurements, H ₃ ⁺ correction should be less than 8 ppm/nA.
The system should be capable of achieving vacuum levels of 5.0 x 10 ⁻⁸ mbar or better without the need of bakeout.
Internal precision 1σ (‰) in continuous flow mode:
δ ¹³ C (CO ₂): ≤ 0.06
δ ¹⁸ O (CO ₂): ≤ 0.06
δD (H ₂): ≤ 0.2
Isotope ratio linearity in continuous flow mode:
δ ¹³ C (CO ₂): ≤ 0.02
δ ¹⁸ O (CO ₂): ≤ 0.04
The source should have a user-accessible, self-aligning plug-in design, and the filament must be oxygen-inert for enhanced durability.

IRMS should, without any upgradation, be capable of accommodating GC and a carbonate analysis device in continuous flow mode.
The IRMS, along with its data acquisition and peripheral devices, should be managed through a computer system with user-friendly software to ensure seamless and efficient user control.
Vacuum pumps (Rotary and Turbomolecular pumps) and gauges should be provided for the vacuum necessary for isotopic measurements. Automatic system protection in case of power failure. Display of vacuum status on the front panel of the software.
1 Year maintenance kit for IRMS must be offered.
Continuous flow interface
The continuous flow interface should be capable of delivering at least 5 or more reference gases without any hardware modifications. The interface must be quoted along with the system.
The interface should have provision for Software controlled dilution of analyte gases.
Interface must have “gas saver mode” for all reference gases, in which there is zero consumption of reference gas when it is not required in the analytical program.
Dual Inlet
The system should have a dual bellow mechanism each for sample and reference line to perform automatic intensity matching of both sides.
Internal precision 2σ (‰) in dual inlet mode:
$\delta^{13}\text{C} (\text{CO}_2): \leq 0.010$
$\delta^{18}\text{O} (\text{CO}_2): \leq 0.016$
$\delta^{\text{D}} (\text{H}_2): \leq 0.10$
Gas Chromatograph
High-precision gas chromatograph with combustion and pyrolysis interfaces to provide capability of on-line precise analysis of D/H, $^{13}\text{C}/^{12}\text{C}$ (under continuous flow conditions) in individual compounds separated by gas chromatograph with total workstation control of the instrument, data processing and reporting.
Should have Split, split-less capillary injector and electronic flow control.
The GC should be equipped with a Flame Ionization Detector (FID) with provisions of individual GC-IRMS and GC-FID operations.
The software to operate GC-FID as standalone instrument must be supplied.
The software should allow processing of 3 rd party IRMS data to unify peak integration algorithms.
Oven temperature: Ambient to 400°C or higher with overheat protection.

A fully integrated auto-sampler for a minimum of 15 samples or more for automatic analysis of liquid samples.
Below external precisions (1σ) should be guaranteed for GC-IRMS analysis:
$\delta^{13}\text{C} (\text{CO}_2): \leq 0.2 \text{ ‰}$
$\delta\text{D} (\text{H}_2): \leq 3 \text{ ‰}$
The system should be offered with 1000 Carbon and 1000 Hydrogen sample analysis.
The system should be supplied with 2 Alkane standards for isotopic calibration of GC-IRMS.
Interface for Carbonate Analysis
The system should be capable of analysing carbonate samples ranging from 20ug to 500 ug in dual inlet mode.
The systems should have a temperature controlled auto-sampler with a capacity of 50 or more samples.
The system should have a suitable mechanism to ensure the gases being delivered to IRMS are completely moisture free.
The system should ensure automatic matching of sample and reference gas intensities before analysis sing dual inlet.
The system should comply to below external precision 1σ (‰) for 10 continuous runs of 40-200ug carbonate:
$\delta^{13}\text{C} (\text{CO}_2): \leq 0.04 \text{ ‰}$
$\delta^{18}\text{O} (\text{CO}_2): \leq 0.08 \text{ ‰}$
The systems should be supplied with 3 isotopic standards (IAEA/USGS) of carbonates for multipoint isotopic calibration.
The system should be supplied with 2000 consumables for Carbonate analysis.
Two liquid nitrogen dewars 50 ltr. each must be supplied with the instrument.
Interface for Water Analysis of dD and d18O
The system should be capable of analysing water samples. The system should utilize headspace analysis of liquid to avoid blockage of the sampling needle/ syringe. An autosampler (temperature controlled) with a capacity of 100 samples or more should be provided along with the system.
The system should have a suitable mechanism to ensure the gases being delivered to IRMS are completely moisture free.
The system should comply to below external precision 1σ (‰) for 10 continuous run of water samples of

200ul:
$\delta^{18}\text{O} (\text{CO}_2): \leq 0.1 \text{ ‰}$
$\delta \text{D} (\text{H}_2): \leq 1 \text{ ‰}$
The systems should be supplied with 3 isotopic standards (IAEA/USGS) of water for multipoint isotopic calibration.
The system should be supplied with 2000 consumables for Water analysis.
Microbalance - Reputed brand microbalance with 0.001 mg readability; must be quoted.
Other items
Two No. high-purity Helium gas cylinders (99.999% purity) should be supplied.
One No. high-purity Oxygen gas cylinders (99.995% purity) should be supplied.
One No. high-purity hydrogen gas cylinders (99.999% purity) should be supplied.
One No. high-purity Carbon Dioxide gas cylinders (99.995% purity) should be supplied.
One high-purity Zero Air gas cylinders should be supplied.
15 KVA UPS with minimum 30 minutes backup must be quoted.
Suitable PC for the operation and data processing and collection with below minimum specifications must to be provided: Intel core i5 processor, 2.0 GHz or more, 27" or more LCD/TFT Monitor, 500 GB SSD, 16GB RAM or higher configuration for use with the above system to be provided. Windows-10 Pro operating system (64-bit) or better.
Air compressor (if required) for pneumatic operation should be supplied
Regulators, gas purification panel/ control box with gas line work must be performed by vendor.
Other conditions
1 year of comprehensive warranty of the instrument and associated peripherals (including parts and labor)
The technical compliance should be supported by certificates, published brochures, manuals, datasheets, and other supporting documents, all of which are to be supplied along with the quote.
Complete users list in India who are using similar instruments along with their contact details including email id should be submitted along with the tender.
Performance certificates from 5 users in India.
The vendor must have at least 5 IRMS installations in India in the last 10 years. Supporting documents are to be provided failing which bid is liable for rejection

The mentioned precisions of IRMS and associated devices must be demonstrated at the time of installation
The technical committee reserves the right to conduct site visits for demonstration of the quoted specifications on an existing instrument installed in India at any point of time during tendering process/ before placement of purchase order.
The supplier must have a technical and application support team based in India.
Vendors must provide pre-installation requisites along with tender clearly citing the space requirement/ dimension of the individual modules.
Local service and consumable support should be guaranteed for minimum 10 years or more from the date of installation.

- i. document – Authorized person to specify, “**All the above terms and conditions will be complied with**” and signed in respective pages of the tender documents, where “terms and conditions” are given.
 - ii. **Proof that the bidder** is (i) either manufacturer or (ii) an authorized agent for the equipment/item for which the bid is submitted.
 - iii. List of organizations in India and abroad, along with Contact Person, address, Tel. No., Fax No. Etc., to which **similar make/model** of the equipment were supplied (as per technical specification).
 - iv. Covering letter, in the letter head of the bidder stating:
 - a. The bid Minimum **warranty period** (as per technical specification).
 - b. That **conforms to the terms and conditions** of the tender
1. Confirmation that the quoted rates are valid The full name of the person authorized to file the tender, designation, current and main office address, Phone No., Fax No. & E-mail address shall be indicated in the tender.
 2. Tenders sent through E-mail, Fax and Telex will not be entertained.
 3. The tender should be filled in and submitted in English/Hindi. All accompanying literature and correspondence shall also be in English/Hindi.
 4. No claim for costs, charges, expenses incurred by the bidder in connection with preparation of tender submission and for subsequent clarifications of their tender shall be accepted.
 5. BSIP will not be responsible for any typographical errors/ambiguity/ additions /omissions committed by the bidder while filling up of the tender.
 6. All pages of tender documents shall be signed by the person authorized to file the tender. Equipment must be supplied as per technical specification given below. Item carted on gem is only for reference.

- (i) Tender must be accompanied by Earnest Money Deposit (EMD) of Rs: 750000.00 in the form of DD/BG in favour of **Director, BSIP**, payable at **LUCKNOW**.
 - (ii) The EMD of the unsuccessful bidder will be returned within one month from the date of award of the contract.
 - (V) The E.M.D. is payable by all categories of tender and exemption from submission of E.M.D. is permissible subject to submission of Valid exemption certificate.
7. Technical Compliance statement for the tendered item is a pre-requisite qualification for participation in tender process. Therefore the same must be submitted with the technical part. **Any falsification / suppression of facts in the compliance statement would lead to the rejection of the quote, along with forfeiture of the E.M.D.**
 8. Any question regarding the tender document and discrepancies shall be directed to the Tender Issuing Authority in writing.
 9. The bidder shall be deemed to have satisfied himself before tendering as to the Correctness and sufficiency of his tender and about the rates quoted by him and cover all his obligations under the tender.
 10. Bids submitted by manufacturers and authorized agents only shall be considered.

11. Technical details shall contain:

- v. Original Tender document **duly signed** by the authorised person on all pages.
- vi. Compliance to technical specifications of the equipment/item for which bids are submitted – Authorized person to indicate the **compliance of technical specifications**, and sign the same.
- c. **Compliance to the terms and conditions** of the tender for six months from the date of end of the bid.
- d. The details regarding the service centres, stocking of spares etc.
- vii. Addenda / corrigenda /clarification issued by BSIP before due date of tender, duly signed by the authorized person.
- viii. Descriptive leaflet/brochure giving the technical details of the equipment's.
- ix. A letter indicating assumptions, criterion, technical alternative etc., if any. However, the alternatives suggested by the bidder would not be taken as the basis for technical/commercial evaluation of the bids.
- x. The probable life expectancy of the equipment's under normal conditions of operation should be stated wherever applicable.
- xi. Details of pre-installation requirements including space, size of the table required, power point ampere, etc.
- xii. Power of attorney authorizing the person who has filed the tender, if applicable.
- xiii. A copy of the certificate for the calibration of the similar makes and model equipment for which bid is submitted from an accredited calibration laboratory or National Physical Laboratory, wherever applicable. (as per technical specification).

18 A Technical Bid Evaluation Criteria:

- xiv. Quotation submitted by the bidders shall be valid for six months from the date of end of the bid..
- xv. The tender job will be awarded on overall L1 basis, not on individual item basis.
- xvi. L1 will be decided on the basis on total of quoted rates of the all items and applicable taxes etc.
- xvii. In case of tie between the bidders, the decision of the BSIP, Lucknow/ Committee will be final and binding on all the bidders.

12. Criterion for rejection

- i. BSIP reserves the right to accept or reject any tender or reject all tenders without giving any reasons whatsoever for their decision.
- ii. Tenders are liable to be rejected in which any of the prescribed particulars / information is either missing or incomplete in any respect and/or if the prescribed conditions are not fulfilled.
- iii. Tenders which are found to be technically non – responsive shall be rejected and their commercial details shall not be considered.
- iv. Canvassing in connection with tender is strictly prohibited and tender submitted by bidder who resorts to canvassing will be liable to rejection.
- v. Tenders containing specific conditions of the bidder other than the terms and conditions given in the tender document and not acceptable to BSIP are liable to be rejected.
- vi. If the validity of the tender is less than the six months from the date of the end of the bid, the tender will be rejected.
- vii. If the tender document duly signed by the authorized person on all pages is not submitted, the tender will be rejected.
- viii. BSIP caters to wide range of customers / stakeholders including the manufacturers/exporters. Hence, Purchase Committee may at its discretion give preferences to more popular brands of equipment's, which give results that, are widely accepted internationally by buyers abroad and the decision of the Committee will be final.
- ix. Before submission of the tender, the prospective bidders are expected to examine technical specifications of the equipment's required, terms and conditions, etc., given in this tender document. Failure to furnish all information required in the tender document may result in the rejection of the bid.
- x. BSIP reserves the right to cancel items, from the list of requirements of equipment's without assigning any reason thereof.

Performance Security: 3%

- i. The successful bidder will provide "Performance Security" for an amount of 3 % of the contract value in the form of valid Account payee Demand Draft/ FDR from any of the scheduled bank favouring "BIRBAL SAHNI INSTITUTE OF PALAEOSCIENCES, LUCKNOW.
- ii. Performance security should remain valid at least for a period of 60 days beyond the date of completion of all contractual obligations of supplier (Total Period of FDR/Demand Draft – Warranty Period plus 60 days). Thereafter the security will be returned, provided there is no defect in the equipment supplied.

Special Instructions:

BSIP, Lucknow shall provide GST certificate on request by the bidder.

Payment terms:

Payment will be released after successful supply & Installation of items at site.

Part Shipment not allowed: Part Shipment will **NOT be allowed**.

Printed Conditions of the Company – Not Acceptable to the Institute:

- i. BSIP shall accept only unconditional tender.
- ii. Technical Deviations are sole discretion of BSIP for consideration:
- iii. If technical deviations furnished by the Tenderer are not agreeable to BSIP, the offers may be ignored. However it will be solely at discretion of BSIP to consider the technical deviations OR not for considering the Tenderer. No correspondences of the Tenderer will be entertained in this matter.

Price Validity: The price quoted by the bidder shall remain valid till the supply is completed. During the tenure of the supply period, no price increase will be considered, except for change in statutory levies imposed by Centre Govt. / state Govt. or Local authorities.

Warranty: As specified in the Technical Specification.

Bid Acceptance and Rejection:

- i. BSIP reserves the right to reject the bid without assigning any reason whatsoever.
- ii. BSIP does not bind itself to accept the lowest or any quotation and reserves the right to reject any or all without assigning any reason.

Liquidity Damage Clause: BSIP, Lucknow reserves the right to levy penalty @ of 1 % of order value per week of delay in supply and /or installation, beyond the schedule as mentioned in this tender document subject to maximum of 5% of the order value. BSIP, Lucknow reserves the right to cancel the order in case the delay is more than 04 weeks. The conditions arising out of Force Majeure will not be considered for the purpose of calculating penalties.

Withdrawal of Tender: The Institute reserves the right to withdraw the tender at any stage of tendering process with the approval of the Competent Authority.

Force Majeure: BSIP, Lucknow may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that, the delay in performance or other failure to perform its obligations under the contract is the result of a Force Majeure. Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms

etc.), acts of states/ state agencies, the direct and indirect consequences of wars (declared or undeclared), hostilities, national emergencies, civil commotion and strikes at successful Bidder's premises or any other act beyond control of the bidder.

Arbitration: All disputes/claims of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc. Under this Contract, shall be referred by either party (BSIP, Lucknow or the bidder) after issuance of 30 days' notice in writing to the party clearly mentioning the nature of dispute to the Sole Arbitrator appointed by BSIP, Lucknow. The arbitration proceedings shall be conducting in English and as per the provisions of Indian Arbitration and Conciliation Act, 1996. The decision of the Arbitrator shall be final and binding on both the parties.

Jurisdiction: The disputes, legal matters, court matters, if any shall be subject to Lucknow jurisdiction only.

- i. A bid submitted with false information will not only be rejected but the vendor may also be debarred for participation in future tendering processes.
- ii. Cost details are to be filled up on GeM Portal.
- iii. All accessories start-up kit required for installation & commissioning the main equipment's are to be specified and quoted.
- iv. For indigenous items, the bidder should take responsibility for delivering the equipment's inside the premises of the respective BSIP at Lucknow and its Associate partners as mentioned in the Purchase Order.
- v. The suppliers of the equipment should provide adequate training for technical personnel of the laboratory per equipment including trouble shooting etc., and making them confident of operating the equipment independently (as per technical specification Annexure – I).
- vi. The bidder shall adhere to the delivery period of the equipment/item as committed by him as indicated in Annexure III of the tender document, whichever is earlier. Penalty for non-execution of the order within the delivery period shall be 1% of the cost of the equipment/item for every week of delay.
- vii. The delivery installation & commissioning period of the equipment's as agreed to should not be extended; under normal conditions. Suitable penalty for non-execution of the order may be enforced to the extent of 1% of the cost of equipment for every week extended. In case of the delay beyond scheduled period due to some unforeseen reason, written permission is required from the Director, Birbal Sahni Institute of Palaeosciences, Lucknow with proper justification to avoid penalty.
- viii. The bidder shall give warranty in respect of items quoted (as per technical specification).
- ix. During the warranty period, regular servicing/maintenance should be undertaken free of charge, including replacement of defective parts/travel cost, etc. Subsequently, servicing/maintenance should be undertaken by the authorized agency of the manufacturer/supplier as per the annual maintenance contract conditions.
- x. Operation manuals, calibration procedures and other instruction manuals should be provided along with each of the equipment (as per technical specification Annexure – I).

- xi. The bidder shall also mention the probable life expectancy of the equipment's under normal conditions of operation should be stated wherever applicable
- xii. **Terms for service contract (comprehensive or non-comprehensive) after the expiry of warranty period are to be included.**
- xiii. The Test Control Systems like computer and printer, compatible to the main equipment, are to be supplied indigenously with latest configuration and licensed operating system (as per technical specification Annexure – I).
- xiv. If the equipment/item is not manufactured by the bidder, authorization of the manufacturer to the bidder for marketing and servicing the equipment's in India should be enclosed along with the technical bid of the tender. In the absence of such authorization, the tender will not be considered at all.
- xv. In case of short supply or wrong supply of equipment's, its parts or accessories or supply of items in damaged conditions, it is the responsibility of the bidder to arrange for the supply of the required items in working condition as per the purchase order, within a reasonable time. Any additional expenditure, whatsoever, for the above will be borne by the bidder only.
- xvi. The specifications given in this document are the minimum requirement. The bidders are free to offer equipment's with better features also. However, the evaluation shall be based on the features mentioned in the tender document. If different model is quoted, the cost details may be given in separate sheet
- xvii. Orders for the supply of items, once placed with successful bidder is non transferable and no sub-contracting is permitted. BSIP, Lucknow reserves the right to cancel the order in such event.
- xviii. Any non-fulfilment of the stipulation given above will make the bid invalid.
- xix. The full payment will be released to the bidders only after completion of satisfactory performance check of the equipment.
- xx. The bids shall first be evaluated for their “technical responsiveness” which shall inter-alia include:
 - a. Proof that the bidder is (i) either manufacturer or (ii) an authorized agent for the equipment/item for which the bid is submitted,
 - b. Compliance to technical specifications of the equipment's for which the bid is submitted,
 - c. Adherence to the warranty period,
 - d. Documents in support of compliance to the calibration of the equipment and its traceability to national/international standards of measurement and proven performance through proficiency testing, wherever such requirement is specified,
 - e. Necessary documentary proof that the bidder has manufactured or supplied the equipment with the list of such customers and performance report of the equipment such customers/users (as per technical specification Annexure – I).

Details regarding the service centres, stocking of spares etc.

- i. Confirmation about the supply of Certified Reference Materials/Samples for checking the performance of the testing equipment's, wherever applicable. Compliance to all other relevant and critical terms and conditions of the tender.
- ii. If any of the above-mentioned parameters are not fulfilled, the bid will be considered as technically non-responsive.
- iii. Total price of the indigenous items should include delivery charges up to the location at BSIP, Lucknow, India.
- iv. AMC charges (Optional) after the expiry of the warranty period (as per technical specification).

ELIGIBILITY AND QUALIFICATION CRITERIA

The following documents should be submitted for eligibility and qualification in technical bid-

Sl.No	Description
	EMD: Rs: 750000.00
1	Technical Specification Compliance Statement –(On the letter head of the Company) –
2	Manufacturer's Authorization OR Self Declaration of Manufacturing Unit
4	Declaration Certificate (Acceptance of terms & conditions of the tender)
5	As on date of submission of the proposal, the Bidder is neither blacklisted by Central Government/ State Government or Instrumentalities thereof nor is any criminal case against the Bidder/ its Partners/ Directors/ Agents pending before any court of law. Non-Blacklisting Certificate.
6	Copy of Firm Registration
7	Copy of PAN Card & GST No.
8	Experience certificate in dealing of said goods must be attached with the tender document
9	Last three years of CA certified turnover certificates and CA certified Average Turnover of the last three years

1. **Technical specification parameters selected in the bid are for reference. Item to be supplied also meet the specification criteria as per attached/uploaded technical specification.**

2. "Certificate" as mentioned below must be submitted by the tenderer.

It is certified that rates quoted against GeM Bid No: Dated For the supply of item Isotope Ratio Mass Spectrometer to BSIP, Lucknow are the minimum and neither we have quoted the same item on lesser rate , than those being offered to BSIP, Lucknow, to any other customer for same supplies made in recent past, and nor we will do so till the validity of offer or execution of purchase order, whichever is later.

If these rates are approved by The Director, BSIP, Lucknow and if any stage the quoted rates are found higher than the rates applicable to supply to Govt, then in such condition BSIP, Lucknow will have the right to cancel the Purchase order and to take the legal action against the tenderer.

Signature
(Name of the bidder)
Disignation
Seal of the Company