

TECHNICAL SPECIFICATIONS

Stable Isotope Ratio Mass Spectrometer (IRMS) for measurement of stable isotopes of Hydrogen, Oxygen, Carbon, Nitrogen and Sulphur in water carbonate and organic material

Specifications

1. Stable Isotope Ratio Mass Spectrometer

One Stable Isotope Ratio Mass Spectrometer capable of measuring stable isotope ratios of hydrogen, carbon, oxygen, nitrogen and sulphur with internal precisions of 0.025 per mil or better with a minimum of fifty micromoles of gas with separate HD collector. On-line sample preparation system for carbonates and combustion of organic samples (elemental analyser attached with Gas Chromatograph). Operable in both Duel Inlet and Continuous flow modes. Suitable vacuum system with turbo molecular pumps for all applications.

2. Electronics

Flashover-resistant source electronics with full control and monitoring of all instrument parameters through on-board microprocessors (distributed intelligence) and software.

3. Instrument performance

Quotation to include full specification of mass spectrometer performance, including both internal and external precision in measurement of H,C,O,N &S isotope ratios on standard gases in CF and in DI modes of operations

4 Sample Preparation modules:

Elemental Analysers

- a) Automatic system for generating, purifying and sampling C, N,O,S gas by Elemental Analyser from known solid/ liquid samples, by combustion/ reduction process, and to be interfaced with MS in CF operation.
- b) Automatic system for generating, purifying and sampling O, H gas by Elemental Analyser from known solid/ liquid samples, by high temperature pyrolysis process and to be interfaced with MS in CF operation.
- c) An auto sampler with sample holder to be provided with each electronically controlled Elemental Analyser. Sample holding capacity should be minimum of 50 samples.
- d) Preparation system and auto-sampler to be operated by the mass spectrometer's host computer.

5. Analytical Performance

Quotation to include clear, unambiguous statements of expected routine performance of the various preparation systems in combination with the mass spectrometers. It should state:

- a) The overall precisions derived from analyses of multiple replicate samples of standard materials, with a clear indication of any effects in relation to sample size (especially important in the case of carbonate samples).
- b) Overall sample analysis times and expected throughput of samples per day using batch loading of multi-position sampler/auto-sampler.

6. Software and data System

PC with latest configuration and Suitable software for controlling and automating the complete analysis of IRMS, from sample preparation to data reporting.

a. Host Computer

The mass spectrometer and any specified preparation system attached to it shall be driven from a dedicated computer system (only Branded systems be offered) having P-4, 2 GHz or faster processor speed and 1024 MB or more RAM, and running through Windows XP operating system. The computer system must include a DVD-RW Drive for archiving, a network card with capability to network graphical data to users' e-mail terminals. The computer system should include a 17" LCD screen and desktop printer.

b. Software

- * The software shall provide fully integrated control of analysers and sample preparation systems.
- * The software shall be capable of safe machine operation, be able to read output values of all important parameters involved in machine operation.
- * The software should allow incorporation of user-written routines in a suitable flexible programming language.
- * Software to be fully compatible with Windows XP operating systems.
- * Free software upgrades.

7. ADDITIONAL GENERAL REQUIREMENTS

Manuals and diagnostic tools

- a. Full service manuals with circuit diagrams and circuit descriptions must be supplied, along with diagnostic tools including interface cards and

software, plus any specialised mechanical tools required for instrument servicing or repair.

- b. Quotation should include an option for **training in routine operation and maintenance of all instruments and modules supplied**, to include instruction in fault diagnosis, servicing and on-site repair procedures.
- c. Quotation should include full sets of **spares and consumables** for 5 years for each instrument and preparation module.
- d. Where operation requires provision of liquid gases, compressed air or compressed gases, the quotation should include provision of all appropriate connectors, valves and control systems for these. Suitable vessels should either be included or a clear indication of requirements provided, including appropriate volumes and qualities for routine, trouble-free operation for these. Chemicals for gas purification should be supplied. Installation of setting up of instrument should include laying the gas connection network and purification.
- e. For each module (mass spectrometer, preparation system) the quotation should include an indication of all consumables required per full batch of samples.
- f. The quotation should include a clear statement of all site requirements for installation and operation of the equipment specified.

8 Warranty for 2 years

A 2-years warranty should be provided and should include routine maintenance calls and for the Engineer to visit IITM,Pune during emergency on SOS basis.

TERMS & CONDITIONS

ENQUIRY NO: PS/125/01/2007/

- 1) The Tenderers are requested to give detailed sealed tender in their own forms in two Bids i.e.
Part – I Technical Bid.
Part - II Commercial Bid, both the bids addressed to the Director, Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, NCL Post, Pashan, Pune – 411 008, INDIA.
- 2) This tender is not transferable.
- 3) a) The Equipments are required to be installed at **IITM, Pune** and subsequently Training is to be provided to the concerned scientists.
b) Packing, Forwarding, Freight & Insurance and Commissioning Charges, if any extra may be quoted separately in Commercial Bid.
c) In case if your quote is F.O.R./F.O.B. basis, estimated Insurance coverage charges may please be indicated.
d) CIF, Mumbai value both by Airfreight.
e) Octroi Payment if an, the same may please be shown separately.
- 5) Cost of the items should be mentioned clearly in the Commercial Offer (Part-II) only. The optional and any other essential items / accessories required for the maintenance of the equipment for the next three years should also be specified in the offer separately.
- 6) In case of foreign quote, the Principal supplier should clearly indicate the address of the Indian Agent and percentage (%) of Agency Commission payable if any, to be paid to the Indian Agent in Indian Currency.
- 7) Percentage & amount of Indian Agency commission payable in Indian currency after the receipt of consignment in good condition at our Stores & satisfactory installation and commissioning of the ordered equipment on submission of copy of DGS&D registration wherever it is applicable.
- 8) Indicate the names of the Indian reputed Organizations where you have supplied the similar equipment and may attach the satisfactory performance report of the equipment from user Organization.
- 9) a) If you have supplied identical or similar equipment to other Institutes under Ministry of Earth Sciences and Ministry of Science & Technology, the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid.

- b) Based on the above information IITM will have its option to obtain details of the equipment, their performance, after sales services etc. for evaluation of the tender, directly from the concerned Labs. /Scientists etc.

10) Fax / E-mail / Telegraphic / Telex tenders will not be considered.

11) All the Bank Charges inside and outside India, including opening of LC, communication, confirmation, amendments etc., if any to Beneficiary's Account only. This may please be noted.

12) Details of services rendered by you as well as after-sales services offered by you are to be made clear in the tender.

13) The Tenderer's conditions printed on the tender or otherwise sent along with the tender shall not be binding on IITM.

14) The vendor should have appropriate facilities and trained personnel for supply, installation, commissioning and warranty-maintenance of the equipment to be supplied. Detailed information in this regard may be furnished.

15) Delivery Period: As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to.

16) Details regarding terms of payment including period of warranty. However we prefer to release the payment on BILL Basis (excluding Indian Agency Commission) after receipt of consignment in good condition and satisfactory installation, and commissioning thereof. Alternatively, depending upon the value and foreign exchange regulations the payment can also be considered through Sight Draft / Letter of Credit through the State Bank of India for the order value excluding the Indian Agency Commission. However, the detailed payment for Sight Draft / Letter of Credit is mentioned at clause No. **26 (B) & (C)** of this tender terms and conditions.

17) Supply means "Supply, Installation, Commissioning and satisfactory demonstration of the whole system and training". If any charges extra for Installation, Commissioning and training, the same should be specified in the commercial offer.

18) Kindly attach a copy of your latest DGS&D, New Delhi registration Certificate under the compulsory Scheme of Ministry of Finance regarding the registration of Indian Agent of foreign supplier wherever it is applicable.

19) a) The Tenderer is required to furnish the Permanent Account Number (PAN) Allotted by the Income Tax Department. If registered with the National Small Industries Corporation, the registration number, purpose of registration and the validity period of registration' etc. should also be provided in Technical Bid for Indian Agents.

b) A copy of latest Income Tax Clearance Certificate from Income Tax Department (INDIA) for Indian Agents.

- 20) In case of Foreign quote, the address of Principal's / Manufacturer's and their Banker's details should be furnished,
- 21) The item should be supplied with manuals and the manuals including technical / Electronic drawings / circuit diagrams should be complete in all respects to operate the system without any problem.
- 22) The import license is covered under OGL policy of 2004 - 2009.
- 23) a) In case of Indigenous Items the offer should contain the Basic Price and percentage of Excise Duty should be shown separately, since IITM, Pune is exempted from payment of Excise duty vide Govt. Notification No.10/97-Central Excise dated 15th March, 1997.
- b) IITM is exempted from payment of Custom Duty vide Govt. Notification No.51/96-Customs dated 23rd July, 1996. However as per the Govt. of India further notification No.24/2002-Customs dated 15th March, 2002 and notification No.19/2006-Customs' dt. 01.03.2006 Custom Duty is levied on all imports meant for IITM. Since the suppliers are requested to quote only on FOB basis freight, insurance and custom duty as applicable to R&D Institutions will be paid by IITM.
- 24) Tender must clearly indicate the features offered unit price, VAT tax, transport, transit insurance, installation charges. Institute cannot furnish any concessional certificate for exemption or reduction in VAT tax or any other duty / tax. The vendor should mention the price of the equipment and the duties / taxes to be paid such as customs duty / excise duty / VAT taxes etc. separately.
- 25) a) No advance can be paid.
- b) **PAYMENT:** 90%' payment shall be made by Sight Draft / an Irrevocable Letter of Credit established in favour of the supplier through the State Bank of India, Main Branch, Camp, Pune 411 001 (India) for the order value, excluding the Agency Commission due to the Indian Agents, against the presentation of original Shipping documents. Balance 10% will be released after completion of satisfactory installation, commissioning, demonstration of the whole system, after imparting training and upon receipt of Bank Guarantee from nationalized bank for 10% of total Order value towards performance security to be valid for one year from the date of installation. However Letter of Credit/Sight Draft arrangement will be made for 100% order value.
- The Agency Commission to the Indian Agent will be paid only after successful installation, commissioning and satisfactory demonstration and acceptance of the items ordered for by the end user.
- c) For Indigenous items, 90% payment shall be made against delivery, installation, commissioning and on acceptance as per Purchase Order at site and balance 10% shall be made after receipt of performance Bank Guarantee from nationalized bank for 10% of the total order value, to be valid for entire period of warranty including extension if any. If no Bank Guarantee is given, the balance 10% will be paid after assessing, after sales service during warranty period i.e. payment after warranty period.

- 26) The prices quoted should be firm and irrevocable and not subject to any change whatsoever, even due to increase in cost of raw material components and fluctuation in the foreign exchange rates and excise duty.
- 27) The Tenderer has to state in detail the Electrical Power/UPS requirements, floor Space, head room, foundation needed and also to state whether Air-conditioned environment is needed to house the system and to run the tests. i.e. pre-installation facilities required for installation may please be intimated in the technical bid.
- 28) **INSTALLATION:** Bidder shall be responsible for installation / demonstration wherever applicable and for after sales service during the warranty and thereafter.
- 29) Acceptance tests to be prescribed later will be carried out after installation and the items will be taken over only after successful completion of the acceptance tests.
- 30) Tenders addressed to the Director, Indian Institute of Tropical Meteorology, Pune 411008 are to be submitted for each item in duplicate in double cover, under two bids system. Superscribed with Tender No. **PS/125/1/2007** for purchase of “**Stable Isotope Ratio Mass Spectrometer**” – Qty 1 No. due on **28th August 2007**.
- 31) The tenders must be clearly written or typed without any cancellations / corrections or overwriting.
- 32) The tenders will be received in the Institute till **28th August 2007** up to **17:00 hrs.** and shall be opened on **29th August 2007** at **15:00 hrs.** in presence of the tenderers or their authorized agents who wish to be present.
- 33) IITM will not be responsible:
- a) For delayed / late quotations submitted / sent by Post / Courier etc.
 - b) For submission / delivery of quotations at wrong places other than the Office of Director, IITM, Pune,
- 34) In case of Foreign Quote, the mode of dispatch should be by Air Post Parcel/Ocean Freight/Air Freight (By Air India Freight) and on Freight to-pay basis only. The approximate dimensions of the packages and weight of consignment are to be indicated.
- 35) The makes / brand and name and address of the manufacturer, Country of Origin, Country of Shipment and currency in which rates are quoted are to be mentioned.
- 36) The Technical Bid should accompany with complete specification, Manufacturer's name, address and relevant Technical Literature/Brochures with Warranty Terms.
- 37) The payment of local currency portion shall be payable in equivalent Indian Rupees, within 30 days after the receipt of the equipment in good condition and after satisfactory installation and commissioning and demonstration.
- 38) The tender / quotation / offer submitted by you should be valid for a minimum period of **One Hundred Eighty (180) days** from the date of opening the tender.

- 39)The quotation should be only in Indian Rupees for indigenous items. In case of foreign quote, the vendors may quote their rates in, Indian Rupees as well as in Foreign Currency.
- 40)The bidder who submits the tender on behalf of their principals should produce documentary evidence in support of their authority to quote or submit proforma invoice of their principals.
- 41)Installation demonstration to be arranged by the supplier free of cost and the same is to be done within 15 days of the arrival of the equipment at site after site readiness.
- 42)IITM will not provide any accommodation/transportation for the Engineers/ Representatives for attending Installation, Commissioning and Demonstration Work. It is the absolute responsibility of the Principal Supplier/Indian Agent to make their own arrangements.
- 43)**WARRANTY/GUARANTEE:** The equipment is to be guaranteed for trouble free performance for a minimum period of one year after installation. Supplier shall finally warrant that all the stores, equipment and components supplied under the ORDER shall be new and of the first quality according to the specifications and shall be free from the defects (even concealed fault, deficiency in the design material and workmanship). The defects, if any, during the guarantee period are to be rectified free of charge by arranging free replacement wherever necessary. Further, the technical specifications and requirements may also be verified and quoted accordingly.
- 44)Details of onsite warranty, agency who shall maintain during warranty and undertake Annual Maintenance Contract/Comprehensive Service Maintenance Contract beyond warranty shall be given in the offer. In case of foreign quote, the Indian Agent who shall maintain during warranty and AMC beyond warranty shall be given in the Technical Offer.
- 45)The supply of spare parts is to be guaranteed at least for a period of 10 years after the supply of the equipment.
- 46)Please mention that during warranty period who will maintain system/ equipment / instrument. Indicate the name of firm, address, contact person, phone no. and fax no. etc in your technical bid.
- 47)After successful installation what will be the minimum down time of equipment/instrument in case of breakdown. If the identified firm or person fails to put the system into working condition what is the further alternative course of action suggested by you to adhere to minimum down time.
- 48)Warranty period will stand extended for a period of total downtime of the equipment.
- 49)After warranty period (post warranty) who will maintain equipment / instrument. Indicate the name of Firm, address, contact person, phone no. And fax no. etc in your technical bid.

- 50) Kindly mention the charges for comprehensive maintenance contract separately in **commercial bid** (for post warranty period).
- 51) No sub-contracting will be allowed for installation or maintaining system/ equipment / instrument during or after warranty period.
- 52) You have to quote rates for AMC, if any, only in commercial bid.
- 53) Any upgrade in Operating System (OS) and associated other software during the warranty period should be supplied free of charge.
- 54) Discount offered should be mentioned clearly in the commercial bid only.
- 55) The Tenderers are requested to quote for Educational Institutional Price for Equipment and Software, since we are eligible for the same.
- 56) This Institute is an autonomous scientific research organization under the Ministry of Earth Sciences and is a recognized centre for studies leading to M.Sc. and Ph.D. of the University of Pune and various other Universities. As such, all possible concessions / discounts / rebates applicable for educational Institutions may be given.

- 57) You have to submit two separate bids in two separate envelopes and you may keep both the bid envelopes in an envelope for sending to us.

One envelope will contain only the TECHNICAL SPECIFICATIONS of the indented equipment.

Another envelope will contain only the financial bid in which price, maintenance, AMC etc. and any other information, which has financial implications, will only be given.

The main envelope, which will contain both the bids, should be super scribed with our tender enquiry No. **PS/125/1/2007** due on **28th August 2007**.

- 59) The technical bids will be opened on the specified due date in the presence of tenderers who wish to be present & the financial bids of only those bidders will be opened whose technical bid is found suitable by us.

- 60) The Date and Time of opening for Part-II (Commercial Bid) will be intimated only to pre-qualified and technically acceptable Tenderers for the item at a later date.

- 61) a) The Earnest Money Deposit of Rs.4,00,000/- (Rs. Four Lakhs only) must be paid / sent along with your technical bid in the form of a Demand Draft, Banker cheque or Bank Guarantee (from a Nationalized Bank only) drawn in favour of The Director, Indian Institute of Tropical Meteorology, Pune payable at Pune, otherwise your technical & financial bids will not be considered at all. The Earnest Money of successful bidder will be returned only after installation, commissioning, satisfactory demonstration and on acceptance of the equipment by the user Scientist / HOD as per the terms of our purchase order. If the successful bidder fails to fulfill the contractual obligations before the due date, he will forfeit the EMD.

The Earnest Money of the unsuccessful bidder whose technical bid has not been found suitable will be returned within 15 days after receipt of Technical Committee recommendations.

- b) Those who are registered with Central Purchase Organization (e.g. DGS&D), National Small Industries Corporation or the concerned Ministry / Department need not to furnish EMD along with their bids.
- c) Though EMD has to be submitted by Demand Draft, Banker's Cheque or Bank Guarantee, we prefer to have Bank Guarantee for easy return to the bidders once a decision is taken by IITM. (Specimen of Bank Guarantee is enclosed at Annexure 'A').
- d) Tenders not accompanied with Demand Draft I Bank Guarantee towards "Earnest Money Deposit" will summarily be rejected.
- 62)a) Tenders, which are submitted without following the Two-Bid Offer System, will summarily be rejected.
b) Unsigned Tenders will also be rejected.
c) Part and incomplete tenders are liable to be rejected.
- 63) 'f the supplier fails to Supply, Install and Commission the system as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of one percent value of the Purchase Order awarded, per every week delay subject to a maximum of 10% for every week beyond the due date and such money will be deducted from any money due or which may become due to the supplier.
- 64)Goods should not be dispatched until the Vendor receives a firm order.
- 65)Please indicate page nos. on your quotation ex. If the quotation is containing 25 Pages, please indicate as 1/25, 2/25, 3/25 -----25/25.
- 66)The purpose of certain specific conditions is to get or procure best Equipment / service etc. for IITM. The opinion of Technical Committee shall be guiding factor for Technical short listing.
- 67)Firms which have already supplied similar equipment to IITM and have not completed required installation / commissioning / after sales service / warranty replacements etc. such firms' offers will not be considered for further evaluation and no enquiries thereafter will be entertained.**
- 68)In the event the Manufacturer / Supplier proposes for amalgamation, acquisition or sale of its business to any firm during the contract period, the Buyer/Successor of the Principal Company are liable for execution of the contract and also fulfillment of contractual obligations i.e. supply, installation, commissioning, warranty, maintenance/replacement of spares accessories etc. with the same cost / ordered value while submitting your bid, you may confirm this condition.**
- 69)Conditional Offers will not be considered.
- 70)All disputes are subject to exclusive jurisdiction of Competent Court and Forum in Pune, India only.

- 71) The Director, Indian Institute of Tropical Meteorology, Pune 411 008, India reserves the right to accept any tender in full or in part or to reject the lowest or any or all tenders without assigning any reason.
- 72) In case of any dispute regarding part-shipment, non-compliance of any feature etc., The Director, Indian Institute of Tropical Meteorology, Pune will be the final authority to decide the appropriate action and it will be binding on the Vendor.
- 73) Last Date and Time for receipt of Tenders: **Upto 17:00 hrs. on 28 August 2007.**
- 74) Date and Time of opening of Tenders: **At 15:00 hrs. on 29th August 2007.**
(Part - I Technical Bid only)

(S. R. Nirgude)
Senior Technical Officer-II
For Director