INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH

PUNE

CLARIFICATION ON TENDER NUMBER - IISER-PUR-0884-18

ITEM DESCRIPTION- PROCUREMENT OF ISOTOPE RATIO MASS SPECTROMETER

Refer our Press Tender Notice No.IISER/S&P/12/18 dated 4.12.2018 for procurement of Isotope Ratio Mass Spectrometer. Tender Reference Number – IISER-PUR-0884-18.

Pre-Bid meeting was held on December 12th , 2018 at 3.00 pm and minutes of meeting is as under.

At the outset, the Chairman welcomed all the Members and the representative of the Prospective Bidders and briefed in general the scope of the Project and thereafter requested Assistant Registrar (S&P) to brief the vendors on the salient features of the commercial terms and the indenting Officer to read out the clarification sought by the Prospective Bidders and replied thereto as detailed in Annexure -II

The representatives present were satisfied with the replies given and it was informed that the corrections / additons / clarifications given, as discussed during the Pre-Bid Conference would be hosted on the website of IISER Pune and all the Prospective Bidders are required to take cognizance of the proceedings of the Pre-Bid Conference before submitting their bids as stipulated in the Bidding Documents.

The other terms & conditions of the notice issued on our IISER website www.iiserpune.ac .in will remain unchanged. No more correspondence in this regard will be entertained

The meeting ended with vote of thanks to the Chair

Sd/-

12.12.2018 Assistant Registrar (S&P)

FILE NO – IISER-PUR-0884-18

Minutes of the meeting of the Pre-Bid Conference for the Procurement of Isotope Ratio Mass Spectrometer held **on December 12th , 2018 at 3.00 PM in the Meeting Room of IISER Pune.**

The Pre-Bid Conference was held and the following members attended the meeting:

1. Prof Shyam Rai - Chairman
2. Dr. Shreyas Managave
3. Dr. Gyana Ranjan Tripathy
4. Mr. Salim Shaikh

The list of prospective bidders who attended the meeting as per Annex -1

A press tender notice was issued on December 04th , 2018 for the procurement of Isotope Ratio Mass Spectrometer under two-bid system.

At the outset, the Chairman welcomed all the Members and the representative of the Prospective Bidders and briefed in general the scope of the Project and thereafter requested Assistant Registrar (S&P) to brief the vendors on the salient features of the commercial terms and the indenting Officer to read out the clarification sought by the Prospective Bidders and replied thereto as detailed in Annexure -II

The representatives present were satisfied with the replies given and it was informed that the corrections / additons / clarifications given, as discussed during the Pre-Bid Conference would be hosted on the website of IISER Pune and all the Prospective Bidders are required to take cognizance of the proceedings of the Pre-Bid Conference before submitting their bids as stipulated in the Bidding Documents.

The other terms & conditions of the notice issued on our IISER website www.iiserpune.ac .in will remain unchanged. No more correspondence in this regard will be entertained

The meeting ended with vote of thanks to the Chair.

Sd/
Prof Shyam Rai

Sd/-
Dr. Shreyas Managave

Sd/
Dr. Gyana Ranjan Tripathy

Sd/-
Mr. Salim Shaikh

ANNEXURE -II

IISER PUNE

PRE-BID CONFERENCE FOR PROCUREMENT OF ISOTOPE RATIO MASS SPECTROMETER

TECHNICAL QUERIES AND CLARIFICATION

TENDER NUMBER - IISER-PUR-0884-18 DATE : 12.12.18

S.No	Query/Clarification Sought	Clarification / Amendment
1	Chapter 4 Technical Requirement part B) – on page 21 Autosampler of the Elemental Analyzer should be Zero blank to ensure complete removal of atmospheric gases and should accommodate >100 samples. Question 4 : Our EA autosampler has max 80 samples	Tender Specification prevails. No change in the specification.
2	Part D) on page 21- Quotations should include price of full set of spares for the instrument, associated periphery and accessory for 5 years; price of set of consumables for analysis of 6000 samples should also be included. Question 5 : 6000 samples of each C, N, S, O H or combined ?	Part D) on page 21 is amended to Price of set of consumables for analysis of 6000 samples of C, N, S isotope (by oxidation technique) and 6000 samples for O, H isotopes (by pyrolysis technique)

3	Part D) on page 21- On-site demonstration of technical specifications on the pre-existing EA-IRMS systems installed in India to the technical committee. Question 6 : do we have to demonstration? what will be time line for the same? Before opening technical bid?	Part D) on page 21- On-site demonstration The vendor must demonstrate the quoted technical specification and relevant points mentioned in the 'Technical evaluation criteria with marks' on the pre-existing system in India. This will be done after opening of the technical bid.
4	Page 23: Technical evaluation will be carried out and Vendors who score >75% will qualify for Price Bid opening. Thereafter, financial proposal shall be evaluated. The Commercially LOWEST BIDDER shall be first preferred Vendor for the award of Order.	Marking Score revised as : In the revised version of specifications, vendor who scores >90% will qualify for Price Bid opening.
5.	Revised Specification	As appended below:

Revised Technical Specifications for EA-IRMS for Geological and Biological samples

Technical Requirement

A) Isotope Ratio Mass Spectrometer

Mass resolution of 110 or better at 10% valley definition. Mass range should be from 1 to 96 AMU at full range of accelerating voltage.

Electromagnetic analyzer for the separation of masses. IRMS should have universal triple collector and collector for dD measurements; collector array should measure isotopic ratios of H, C, N, O and S in gases H_2, CO_2, N_2, N_2O, SO_2, O_2 and CO.

Absolute Sensitivity of CO_2 (molecules/ion) must be equal to or better than 1200 in continuous flow mode and 800 in duel inlet mode. Source Linearity must be better than 0.02‰/nA for CO_2.

The IRMS, its data acquisition and the peripheral devices must be under computer control with the necessary user-friendly software. A computer (Dell Optiplex 3020 SFF or equivalent; Windows 8 operating system; MS Office 2010 professional edition (English)) and printer should be provided along with it.

For hydrogen measurements H_3^+ correction should be less than 10 ppm/nA; H_3^+ factor stability should be less than 0.03 ppm/nA/hr.

Internal precision 1σ (‰) for:
$\delta^{13}C$ (CO_2): ≤ 0.06; $\delta^{18}O$ (CO_2): ≤ 0.08; $\delta^{15}N$ (N_2): ≤ 0.06
$\delta^{18}O$ (CO): ≤ 0.10; $\delta^{34}S$ (SO_2): ≤ 0.10; $\delta^{2}D$ (H_2): ≤ 0.20

IRMS should, without any upgradation, be capable of accommodating inlet peripherals such as GC and dual inlet and still get the specified sensitivities mentioned earlier.

B) Elemental Analyzer

The system must have two furnaces viz Combustion and Pyrolysis furnace for Analysis of O and H in water and other samples so that it is possible to carry out isotopic analysis of bulk material for C, N, S by combustion and O, H by pyrolysis using elemental analyser. Temperature achievable for analysis in pyrolysis mode should be more than 1400^0C.

Analysis of sulfur should be done at higher GC column temperature than that for carbon and nitrogen during the same run.

Serial acquisition of carbon, nitrogen and sulfur isotopes of the same aliquot should be done efficiently with sharper peaks for sulfur. Precision should be guaranteed for all three isotopes in a single run.

The external precision (1σ) should be
$\delta^{13}C$ (CO2) 0.10 ‰, sample size 50 µg C
$\delta^{15}N$ (N2) 0.15 ‰, sample size 50 µg N
$\delta^{34}S$ (SO2) 0.20 ‰, sample size 50 µg S
δD (H2) 3 ‰, solid sample size 25 µg H
$\delta^{18}O$ (CO) 0.4 ‰, solid sample size 50 µg O

All necessary software and hardware should be supplied as a standard part of the EA. EA should be capable of operating as a standalone unit for CHNS elemental analysis.

Autosampler of the Elemental Analyzer should be Zero blank to ensure complete removal of atmospheric gases and should accommodate >100 samples.

The provision for dilution of analyte gases should be there so that the measurement of highly abundant to trace elements can be performed.

The continuous flow interface should be capable of delivering at least 5 or more reference gases such as CO_2, N_2, SO_2, CO, H_2 simultaneously.

C) Local supplies

All the necessary gas cylinders and associated parts (regulators, purifiers, panel and plumbing etc) should also be provided.

Standalone leak detector of CO and H_2 with audio-visual alarm of the leak must be provided.

Appropriate UPS is required for uninterrupted power supply for at least two hours for mass spectrometers and associated peripherals.

D) Other requirements

Quotations should include price of full set of spares for the instrument, associated periphery and accessory for 5 years; price of set of consumables for analysis of 6000 samples in CNS mode (oxidation technique) and 6000 sample in OH mode (pyrolysis technique) should also be included

Quotations should include price of 3 years of comprehensive warranty of the instrument and associated periphery.

Vendor should provide complete user list (including email id and phone numbers) and performance certificate of their IRMS systems installed within India.

On-site demonstration of technical specifications on the pre-existing EA-IRMS systems installed in India to the technical committee.

Point wise Technical Specifications for the purchase of EA-IRMS

Technical evaluation criteria with marks		
Sr. No.	**Technical Requirement**	**Points**
1	Mass resolution of 110 or better at 10% valley definition. Mass range should be from 1 to 96 AMU at full range of accelerating voltage. Electromagnetic analyzer for the separation of masses. IRMS should have universal triple collector and collector for dD measurements; collector array should measure isotopic ratios of H, C, N, O and S in gases H_2, CO_2, N_2, N_2O, SO_2, O_2 and CO. Absolute Sensitivity of CO_2 (molecules/ion) must be equal to or better than 1200 in continuous flow mode and 800 in duel inlet mode. Source Linearity must be better than 0.02‰/nA for CO_2. For hydrogen measurements H_3^+ correction should be less than 10 ppm/nA; H_3^+ factor stability should be less than 0.03 ppm/nA/hr. A computer (Dell Optiplex 3020 SFF or equivalent; Windows 8 operating system; MS Office 2010 professional edition (English)) and printer should be provided along with it. IRMS should, without any upgradation, be capable of accommodating inlet peripherals such as GC and dual inlet and still get the specified sensitivities.	15
2	The IRMS, its data acquisition and the peripheral devices must be under computer control with the necessary user-friendly software.	5
3	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 front panel of software.	5
4	Internal precision 1σ (‰) for: $\delta^{13}C$ (CO_2): ≤ 0.06; $\delta^{18}O$ (CO_2): ≤ 0.08; $\delta^{15}N$ (N_2): ≤ 0.06 The external precision (1σ) should be $\delta^{13}C$ (CO_2) 0.10 ‰, sample size 50 µg C $\delta^{15}N$ (N_2) 0.15 ‰, sample size 50 µg N $\delta^{34}S$ (SO_2) 0.20 ‰, sample size 50 µg S δD (H_2) 3 ‰, solid sample size 25 µg H	10

	$\delta^{18}O$ (CO) 0.4 ‰, solid sample size 50 µg O $\delta^{18}O$ (CO): ≤ 0.10; $\delta^{34}S$ (SO_2): ≤ 0.10; $\delta^{2}D$ (H_2): ≤ 0.20 Documentary proof of such specifications should be provided.	
5	The system must have two furnaces viz Combustion and Pyrolysis furnace for Analysis of O and H in water and other samples so that it is possible to carry out isotopic analysis of bulk material for C, N, S by combustion and O, H by pyrolysis using elemental analyser. Analysis of sulfur should be done at higher GC column temperature than that for carbon and nitrogen in the same run. Serial acquisition of carbon, nitrogen and sulfur isotopes of the same aliquot should be done efficiently with sharper peaks for sulfur. Precision should be guaranteed for all three isotopes in a single run. Temperature achievable for analysis in pyrolysis mode should be more than 1400^0C. All necessary software and hardware should be supplied as a standard part of the EA. EA should be capable of operating as a standalone unit for CHNS elemental analysis. Autosampler of the Elemental Analyzer should be Zero blank to ensure complete removal of atmospheric gases and should accommodate >100 samples. The provision for dilution of analyte gases should be there so that the measurement of highly abundant to trace elements can be performed. The continuous flow interface should be capable of delivering at least 5 or more reference gases such as CO_2, N_2, SO_2, CO, H_2 simultaneously.	15
6	All the necessary gas cylinders and associated parts (regulators, purifiers, panel and plumbing etc) should also be provided. Standalone leak detector of CO and H_2 with audio-visual alarm of the leak must be provided. Appropriate UPS is required for uninterrupted power supply for at least two hours for mass spectrometers and associated peripherals. Vendor should provide complete user list (including email id and phone numbers) and performance certificate of their IRMS systems installed within India.	15

	Quotations should include price of full set of spares for the instrument, associated periphery and accessory for 5 years; price of set of consumables for analysis of 6000 samples in CNS mode (oxidation technique) and 6000 sample in OH mode (pyrolysis technique) should also be included. Quotations should include price of 3 years of comprehensive warranty of the instrument and associated periphery.	15
7	On-site demonstration of technical specifications on the pre-existing EA-IRMS systems installed in India to the technical committee.	20
	Total	100

Prof Shyam Rai Dr. Shreyas Managave Dr. Gyana Ranjan Tripathy Mr. Salim Shaikh

ANNEXURE -III

IISER PUNE

PRE-BID CONFERENCE FOR PROCUREMENT OF ISOTOPE RATIO MASS SPECTROMETER

COMMERCIAL QUERIES AND CLARIFICATION

TENDER NUMBER - IISER-PUR-0884-18 DATE : 12.12.18

S.No	Query/Clarification Sought	Clarification / Amendment
1	Chapter 1 - Tender Fee & Earnest money deposit details -Part b) : the party must therefore submit a pre receipted bill in triplicate along with the quotation (in case of EMD sent in form of Bank Draft) to enable us to refund their EMD. Question 1 we have to submit pro-forma invoice ?	Chapter 1 - Tender Fee & Earnest money deposit details – **No pro-forma Invoice is to be submitted** as it contains price details.
2	Part b) i : …. In case the BIDDER is not represented by any Indian Agent the Bank Guarantee valuing **US $ 4800.00 (Four Thousand Eight Hunderd US Dollars only)** should accompany the Technical Bid towards EMD. Question 2 Does this replace the EMD of Rs, 3,60,000 ?	Chapter 1 - Tender Fee & Earnest money deposit details – Bank Guarantee EMD can be submitted in Rs 3,60,000/- in the form of Demand Draft or in the form of Bank Guarantee valuing US $ 4800.00 routed through any Indian Bank.

3	Chapter-2: Instruction to bidders, part 2 (Delivery Period/ Timeliness) - The deliveries & installation must be completed **within 70 Days** after opening of LC. Query: When will the LC be opened – need total time of 180 day FRO to delivery.	Chapter-2: Instruction to bidders, part 2 (Delivery Period/ Timeliness) is amended to: **The deliveries & installation must be completed within 90 Days after opening of LC.**

Prof Shyam Rai Dr. Shreyas Managave Dr. Gyana Ranjan Tripathy Mr. Salim Shaikh