भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान बरहमपुर
Indian Institute of Science Education and Research Berhampur
Established by the Ministry of Education, Govt. of India

Ref. No. IISERBpr/S&P/GTE/2024-25/30 13/08/2024

Corrigendum/Addendum – 01

NIT no: IISERBpr/S&P/GTE/2024-25/30 Dt July 31, 2024

1. This is to inform all concerned that based on the pre-bid meeting held on August 08, 2024 and as per the Institute requirement, the technical specification, technical compliance sheet have been revised and re-uploaded in the www.gerpegov.com/IISERBP portal

2. The last date of bid submission of the referred tender is extended to September 06, 2024

3. The above changes will be part of the tender documents.

4. This is for information of all concerned.

S. No.	Section	Item	For	Read as
1	Section-IV	TEMPLATE FOR PRE-QUALIFICATION CRITERIA 1.Growth chambers	Bidders must have supplied similar growth chambers to at least five R&D laboratories in India that are being used currently, with contact details of the concerned person in each institute.	Removed.
2	Section-IV	TEMPLATE FOR PRE-QUALIFICATION CRITERIA 3.Growth chambers	The bidders also have to submit certificates from the Institute authorities showing successful functioning of the growth chamber	Removed.
3	Section-IV	INSALLATION ACCESSORIES Point No-46.	Multi-element internal standards for elements such as: (Ag, Al, As, Au, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, V, Mo, Na, Ni, P, Pb, S, Sb, Si, Se, Sn, Sr, Ti, Zn, Zr, Hg, Pd, Ta, Nb and REEs such as La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, U, Th). To be provided of volume (125 ml).	Removed
4	Section - I	OTHER TERMS AND CONDITIONS: Pre-qualification criteria	Pre-Qualification criteria: Bidders must have supplied identical equipment (same or similar) to other IISERs/IITs/Central Universities/research institutes etc., of national repute in the last three years. Copies of Purchase orders have to be submitted as evidence of supply. The bidders also have to submit certificates from the Institute authorities showing successful functioning of the identical	Pre-Qualification criteria: Bidders must have supplied identical equipment (same or similar) to other IISERs/IITs/Central Universities/research institutes etc., of national repute in the last three years. Copies of Purchase orders have to be submitted as evidence of supply. The bidders also have to submit certificates from the Institute authorities showing successful functioning of the identical equipment supplied to them for the last three years.

			equipment supplied to them for the last five years.	
5	Section -I	WARRANTY (&OTHER TERMS AND CONDITIONS) 56.Warranty	Default OEM warranty is One year. Further CMC for 05 years after completion of warranty must be provided.	Warranty and Comprehensive Maintenance Contract (CMC) requirements are modified as per below: a. Warranty of 2 years should be provided. b. After the warranty is over, 4 years of Comprehensive Maintenance Contract (CMC) must be provided. CMC shall have to cover all the components of the total ICPOES, Water Chiller and UPS system including essential accessories. During warranty and CMC all spare parts and complete support are to be provided to IISER BERHAMPUR site on DDP basis. c. The cost of CMC shall be included for price comparison among the eligible bidders for determination of L1 bidder.

Stores & Purchase Officer

Section IV

Schedule of Requirements and Compliance

Sl No.	Description	No. of Units
1	ICP-OES	01

DETAILED TECHNICAL SPECIFICATIONS

Annexure I

Bench top design, Dual View Simultaneous Inductively Coupled Plasma Emission Spectrometer (ICP-OES)

1. Bench top design, True simultaneous and background correction including simultaneous measurements of all analyte wavelengths, internal standard and background ICP-OES system using solid-state detector technology & polychromator based optical system.
2. The Instrument must have an Echelle based polychromator that utilizes Charge Injection Device detector (CID) OR Charged Coupled Device Detector (CCD) OR SCD Detector. The resolution of the system must be 0.007nm at around 200nm or better. The entire optical system must be closed in a purged and thermo stated optical enclosure.
3. Viewing of the plasma must be computer controlled. Dual View (torch). The system should have option of selecting any wavelength in any mode (axial/radial or both) as per users' discretion.
4. The instrument must be able to perform determinations across the entire spectrum, both UV and Visible 167 – 785 nm or wider
5. Simultaneous echelle type grating & 250 mm or more effective focal length or better.
6. The semi demountable dually viewed torch is to be quickly and simply removable, fully interlocked and is to be supplied as standard with a 2.0mm diameter demountable center tube
7. The vertical torch mounting to ensure high-matrix robustness, which can be enhanced with the sheath gas accessory enabling the analysis of the most challenging samples.
8. The system should have fast startup time of just five minutes from standby mode to ensure the instrument is ready to analyze samples at any time during the working day.
9. Minimum integration time: 5 seconds or lesser

ICP SYSTEM GAS CONTROL:

10. The instrument must monitor all gas pressures through mass flow control. The interlocks must be continuously monitored and if any interlock is interrupted, the plasma should shutdown automatically. All the MFC or equivalent controllers should be factory fitted (4 MFC/ equivalent controllers or more).
11. Plasma ignition and shut down must be computer controlled and totally automated.
12. The instrument must include a mechanism to eliminate the cool end of the plasma for minimizing self – absorption and physical interference.
13. The optic system must have a beam blocker/equivalent mechanism to protect the optical components from the extreme UV region when no data acquisition is taking place.
14. The total gas consumption of the ICP including the purge gas must be < 18L/min.
15. The system is to be fully interlocked against gas failure.

SYSTEM DETECTOR

16. Solid- state detector (CID/CCD/SCD) optimized for performance across the entire emission spectrum, anti-blooming protection to enable the simultaneous measurement of trace level analytes in the presence of major matrix constituents.
17. The detector must have Auto –Integration that allows intense and trace signal to be measured simultaneously.

RF GENERATOR

18. The solid-state RF Generator must run at frequency of 27MHZ or more. The RF Power should be variable from 1000 to 1500 W in dual view mode or better with capability to use maximum available power

SAMPLE INTRODUCTION SYSTEM

19. The instrument must include appropriate ICP torch and Concentric Quartz nebulizer (Acid Resistive) spray chamber system as a standard for Aqueous sample. The system must be suitable for introducing the environmental (water, soil) as well as geological (rocks, minerals).

20. The system must include a four channel, variable speed, controlled peristaltic pump which allows for on- line addition of internal standards

21. Integrated Hydride Vapor System for Hydride forming elements – 1 No. and 1 extra set of Hydride kit consumables.

22. HF resistant kit – 1 No. and additional 1 set of HF resistant consumables (including torch and nebulizer and others)

23. Chiller/re-circulator. Vendor should supply chiller re-circulator of appropriate capacity along with the system. -1 No

Autosampler

24. Autosampler with 200 nos. or more vial capacity

25. Autosampler vial and cap – 1000 nos.

SYSTEM SOFTWARE

26. The instrument system software shall be based on the windows operating system.

27. The software shall provide full control of all instrument functions including plasma ignition, gas flows, viewing position, and monitoring of safety interlocks.

28. Software should also have comprehensive wavelength library (40,000 lines or more) with indication of preferred line for each element. It should feature automatic identification of possible spectral interferences when selecting wave lengths for analysis and should have search mode for identification of unknown wave lengths.

29. The facility for automatic back up of data onto a server must be offered along with the instrument software.

30. Minimum 2 offline software licenses must be provided as standard.

PERFORMANCE

31. The instrument must meet all EPA contract lab required detection limits.

32. The instrument must have superior signal detection and a working dynamic range of 9 orders of magnitude with the ability to use alternate wavelengths that measured simultaneously.

33. Time from stand-by/power-off mode to first measurement should be 5 minutes

34. Simultaneous analysis of all elements presents in your sample at a time.

35. Analysis of 20 elements with 3 wavelengths for each element, 10 seconds or better integration, three replicates shall be in less than 2 minutes should be possible & needs to be demonstrated from complete power-off mode.

36. Detection of Hg < 5ppb without using HVG should be possible.

37. Instrument must have proper mechanism for removal of/avoid the inter elemental interferences.

INSALLATION ACCESSORIES:

38. The scope of supply should also include branded PC, Monitor 21” wide screen LED TFT with Resolution 1920 x 1080 or more

- Processor Intel Core i5 4.0 GHz Processor
- Memory 16GB RAM; Hard Disk Drive 1 TB
- On board graphics chip with 128 MB RAM
- Optical Drive DVD Writer
- Minimum 4 USB ports; Keyboard, Mouse
- Microsoft™ Windows™ 7 Professional with Service Pack 1 (64 bit) (License Version)
- Microsoft.NET™ Framework 4.0
- 21" TFT Color Monitor with Display resolution 1920 × 1080 pixel
- Adobe Reader™ for viewing PDF reports
- Recommended: 1 parallel port; Recommended: 2 serial ports
- Network card 10/100
- Licensed version operating Software -windows 10 or latest

39. A mono laser printer,

40. High-pressure Argon gas regulator -2Nos

41. Stainless Steel Hood with Exhaust Fan including necessary fitting and Ducting Facility filters etc. along with suitable capacity

42. Argon Gas Cylinder, Purity: 99.999% in 47 ltrs Carbon Steel Cylinder with Valve and Valve guard. Gas Volume: 7.0 m3 (05 Nos.).

43. Gas Purification Panel for the above gas include Molecular Sieve, Moisture & Oxygen traps with necessary Tubing's, Nuts, Ferrules and Manifold

44. 10 KVA or more UPS for inductive load with built-in isolation transformer with 60 minutes back up.

45. Multi-element Standards (minimum 5 standards for each element) for calibration (125 ml). Standards must include elements such as: Ag, Al, As, Au, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, V, Mo, Na, Ni, P, Pb, S, Sb, Si, Se, Sn, Sr, Ti, Zn, Zr, Hg, Pd, Ta, Nb and REEs such as La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, U, Th.

Recommended Consumables to be included in the offer:

46. Tuning solution 100ml: 2 Nos

elevant Duo Torch: 2 Nos

48. Centre Tube 2.0: 3 Nos

49. Nebulizer: 2 nos.

50. Internal standards for tubing aqueous: 5 Nos.

51. Pump tubing aqueous sample (pack 6): 5 Nos

52. Pump tubing aqueous drain (pack 6): 5 Nos

Platinum Wares:

53. P/N:(KP1002A): Semi-Heavy Crucible,95%Pt, 5% Au 30g –crucible. (2 Nos).

54. P/N: KP1009A: 40mm Mold 95%Pt 5% Au 35 grams. (2 Nos).

Warranty:

55. Warranty and Comprehensive Maintenance Contract (CMC) requirements are modified as per below:

a. Warranty of 2 years should be provided.

b. After the warranty is over, 4 years of Comprehensive Maintenance Contract (CMC) must be provided. CMC shall have to cover all the components of the total ICPOES, Water Chiller and UPS system including essential accessories. During warranty and CMC all spare parts and complete support are to be provided to IISER BERHAMPUR site on DDP basis.

c. The cost of CMC shall be included for price comparison among the eligible bidders for determination of L1 bidder.

Training:

56. The supplier must provide 3 weeks of comprehensive training on sample and standard preparation, operation, application and maintenance of the instrument after installation and initial demonstration (apart of basic installation, familiarization & operational training at the time of installation) at IISER Berhampur. The training must be given after the installation of the instrument.

TEMPLATE FOR PRE QUALIFICATION CRITERIA

Sl. No.	Pre – Qualification Criteria	Compliance Yes / No
1	Bidders must have supplied identical equipment (same or similar) to other IISERs/IITs/Central Universities/research institutes etc., of national repute in the last three years. Copies of Purchase orders have to be submitted as evidence of supply. The bidders also have to submit certificates from the Institute authorities showing successful functioning of the identical equipment supplied to them for the last three years.	

Technical Compliance Statement

Annexure IA

Equipment/ Item: Bench Top Design, Dual view simultaneous Inductively Coupled Plasma Emission Spectrometer (ICP-OES)

S. No.	Specification of Equipment	Compliance please write Yes/No	Make/Brand & Model No. of the Quoted Item	Remarks
	SPECTROMETER:			
1	Bench top design, True simultaneous and background correction including simultaneous measurements of all analyte wavelengths, internal standard and background ICP-OES system using solid-state detector technology & Polychromator based optical system.			
2	The Instrument must have an Echelle based polychromator that utilizes Charge Injection Device detector (CID) OR Charged Coupled Device Detector (CCD) OR SCD Detector. The resolution of the system must be 0.007nm at around 200nm or better. The entire optical system must be closed in a purged and thermo stated optical enclosure.			
3	Viewing of the plasma must be computer controlled. Dual View (torch). The system should have option of selecting any wavelength in any mode (axial/radial or both) as per users' discretion.			
4	The instrument must be able to perform determinations across the entire spectrum, both UV and Visible 167 – 785 nm or wider			
5	Simultaneous echelle type grating & 250 mm or more effective focal length or better.			
6	The semi demountable dually viewed torch is to be quickly and simply removable, fully interlocked and is to be supplied as standard with a 2.0mm diameter demountable center tube			
7	The vertical torch mounting to ensure high-matrix robustness, which can be enhanced with the sheath gas accessory enabling the analysis of the most challenging samples.			
8	The system should have fast startup time of just five minutes from standby mode to ensure the instrument is ready to analyze samples at any time during the working day.			
9	Minimum integration time: 5 seconds or lesser			
	ICP SYSTEM GAS CONTROL:			
10	The instrument must monitor all gas pressures			

	through mass flow control. The interlocks must be continuously monitored and if any interlock is interrupted, the plasma should shutdown automatically. All the MFC or equivalent controllers should be factory fitted (4 MFC/ equivalent controllers or more).			
11	Plasma ignition and shut down must be computer controlled and totally automated.			
12	The instrument must include a mechanism to eliminate the cool end of the plasma for minimizing self – absorption and physical interference.			
13	The optic system must have a beam blocker/equivalent mechanism to protect the optical components from the extreme UV region when no data acquisition is taking place.			
14	The total gas consumption of the ICP including the purge gas must be < 18L/min.			
15	The system is to be fully interlocked against gas failure.			
	SYSTEM DETECTOR			
16	Solid- state detector (CID/CCD/SCD) optimized for performance across the entire emission spectrum, anti-blooming protection to enable the simultaneous measurement of trace level analytes in the presence of major matrix constituents.			
17	The detector must have Auto –Integration that allows intense and trace signal to be measured simultaneously.			
	RF GENERATOR			
18	The solid-state RF Generator must run at frequency of 27MHZ or more. The RF Power should be variable from 1000 to 1500 W in dual view mode or better with capability to use maximum available power			
	SAMPLE INTRODUCTION SYSTEM			
19	The instrument must include appropriate ICP torch and Concentric Quartz nebulizer (Acid Resistive) spray chamber system as a standard for Aqueous sample. The system must be suitable for introducing the environmental (water, soil) as well as geological (rocks, minerals).			
20	The system must include a four channel, variable speed, controlled peristaltic pump which allows for on- line addition of internal			

	standards			
21	Integrated Hydride Vapor System for Hydride forming elements – 1 No. and 1 extra set of Hydride kit consumables.			
22	HF resistant kit – 1 No. and additional 1 set of HF resistant consumables (including torch and nebulizer and others)			
23	Chiller/re-circulator. Vendor should supply chiller re-circulator of appropriate capacity along with the system. -1 No			
	Autosampler			
24	Autosampler with 200 nos. or more vial capacity			
25	Autosampler vial and cap – 1000 nos.			
	SYSTEM SOFTWARE			
26	The instrument system software shall be based on the windows operating system. It should be compliant ready (21 CFR part 11 party levels)			
27	The software shall provide full control of all instrument functions including plasma ignition, gas flows, viewing position, and monitoring of safety interlocks.			
28	Software should also have comprehensive wavelength library (40,000 lines or more) with indication of preferred line for each element. It should feature automatic identification of possible spectral interferences when selecting wave lengths for analysis and should have search mode for identification of unknown wave lengths.			
29	The facility for automatic back up of data onto a server must be offered along with the instrument software.			
30	Minimum 2 offline software licenses must be provided as standard.			
	PERFORMANCE			
31	The instrument must meet all EPA contract lab required detection limits.			
32	The instrument must have superior signal detection and a working dynamic range of 9 orders of magnitude with the ability to use alternate wavelengths that measured simultaneously.			
33	Time from stand-by/power-off mode to first			

	measurement should be 5 minutes			
34	Simultaneous analysis of all elements presents in your sample at a time.			
35	Analysis of 20 elements with 3 wavelengths for each element, 10 seconds' integration, three replicates shall be in less than 2 minutes should be possible & needs to be demonstrated.			
36	Detection of Hg < 5ppb without using HVG should be possible.			
37	Instrument must have proper mechanism for removal of/avoid the inter elemental interferences.			
	INSALLATION ACCESSORIES:			
38	The scope of supply should also include branded PC, Monitor 21" wide screen LED TFT with Resolution 1920 x 1080 or more			
	• Processor Intel Core i5 4.0 GHz Processor			
	• Memory 16GB RAM; Hard Disk Drive 1 TB			
	• On board graphics chip with 128 MB RAM			
	• Optical Drive DVD Writer			
	• Minimum 4 USB ports; Keyboard, Mouse			
	• Microsoft™ Windows™ 7 Professional with Service Pack 1 (64 bit) (License Version)			
	• Microsoft.NET™ Framework 4.0			
	• 21" TFT Color Monitor with Display resolution 1920 × 1080 pixel			
	• Adobe Reader™ for viewing PDF reports			
	• Recommended: 1 parallel port; Recommended: 2 serial ports			
	• Network card 10/100			
	• Licensed version operating Software - windows 10 or latest			
39	A mono laser printer,			
40	High-pressure Argon gas regulator -2Nos			
41	Stainless Steel Hood with Exhaust Fan including necessary fitting and Ducting Facility filters etc. along with suitable capacity			
42	Argon Gas Cylinder, Purity: 99.999% in 47 ltrs			

	Carbon Steel Cylinder with Valve and Valve guard. Gas Volume: 7.0 m3 (05 Nos.).			
43	Gas Purification Panel for the above gas include Molecular Sieve, Moisture & Oxygen traps with necessary Tubing's, Nuts, Ferrules and Manifold			
44	10 KVA or more UPS for inductive load with built-in isolation transformer with 60 minutes back up			
45	Multi-element Standards (minimum 5 standards for each element) for calibration (125 ml). Standards must include elements such as: Ag, Al, As, Au, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, V, Mo, Na, Ni, P, Pb, S, Sb, Si, Se, Sn, Sr, Ti, Zn, Zr, Hg, Pd, Ta, Nb and REEs such as La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, U, Th.			
	<u>Recommended Consumables to be included in the offer:</u>			
46	Tuning solution 100ml: 2 Nos			
47	EMT/relevant Duo Torch: 2 Nos			
48	Centre Tube 2.0: 3 Nos			
49	Nebulizer: 2 nos.			
50	Internal standards for tubing aqueous: 5 Nos.			
51	Pump tubing aqueous sample (pack 6): 5 Nos			
52	Pump tubing aqueous drain (pack 6): 5 Nos			
	<u>Platinum Wares:</u>			
53	P/N:(KP1002A): Semi-Heavy Crucible,95%Pt, 5% Au 30g –crucible. (2 Nos).			
54	P/N: KP1009A: 40mm Mold 95%Pt 5% Au 35 grams. (2 Nos).			
	<u>Warranty:</u>			
55	Warranty and Comprehensive Maintenance Contract (CMC) requirements are modified as per below: d. Warranty of 2 years should be provided. e. After the warranty is over, 4 years of Comprehensive Maintenance Contract (CMC) must be provided. CMC shall have to cover all the components of the total ICPOES, Water Chiller and UPS system including essential accessories. During warranty and CMC all spare parts and complete support are to be provided to IISER BERHAMPUR site on			

	DDP basis. The cost of CMC shall be included for price comparison among the eligible bidders for determination of L1 bidder.			
	Training			
56	The supplier must provide 3 weeks of comprehensive training on sample and standard preparation, operation, application and maintenance of the instrument after installation and initial demonstration (apart of basic installation, familiarization & operational training at the time of installation) at IISER Berhampur. The training must be given after the installation of the instrument.			

TEMPLATE FOR PRE QUALIFICATION CRITERIA

Sl. No.	**Pre – Qualification Criteria**	**Compliance Yes / No**
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