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### CORRIGENDUM

PUR-170/EP/SEAF/2024-25

Date: 10.12.2024

**Ref.: Tender ID No. 2024\_CSIR\_216663\_1**

After the Pre-Bid meeting held on 09.12.2024, Technical Specifications of ICP-OES is amended and revised specification is as per Annexure-A.

Qualification requirement, Terms & Conditions, Bid submission end date and Bid opening date will remain same.

स-प्र तिस्ता  
10.12.2024  
भंडार एवं क्रय अधिकारी  
Stores & Purchase Officer  
CSIR-NEERI, Nagpur  
10/12/2024

**Revised Technical specifications of ICP-OES:****TRUE/FULLY SIMULTANEOUS INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROMETER (ICP-OES)**

Fully PC controlled Polychromator based True/Fully Simultaneous/Synchronous Dual view ICP-OES system, should be a bench top model with compact size, able to determine trace and measure elements in diverse kind samples like soil, sludge, ground water, wastewater samples etc. System should have high sample throughput capable of analysing over 200 samples per day and have higher dynamic range. System should be able to determine, major, minor and trace elements in single run in a true simultaneous mode measurement with following specifications –

Sr. No.	Indented Specifications		
	Parameter	Specifications	
1	Wavelength range	170 to 780 nm with resolution of $\leq 0.007$ nm @ 200 nm or better	
2	Polychromator	Echelle based high resolution optical system capable of measuring in complete UV-Visible range simultaneously. Simultaneous analysis over complete wavelength range in single shot including internal standard.	
3	Detector	Completely Solid-state detector based on Charge coupled / charge transfer / charge injection/ suitable advanced detector device for simultaneous measurement with necessary cooling / heating system, if required.	
4	RF generator	Fully Solid-state generator. Operating frequency - 27 MHz / 40 MHz, Adjustable variable power from 1000 to 1400 Watts or better.	
5	Plasma Ignition and Extinction	Auto ignition and shut down operation, preferably computer controlled and for user selectable duration.	
6	Safety interlocks	Necessary safety interlock.	
7	Cooling Water Chiller/ Recirculator	Suitable Chiller/re-circulator (if required) of appropriate capacity from original manufacturer and international origin with warranty of minimum 01 year.	
8	Argon plasma and sample input	Configuration	Dual view configuration to select axial, radial or mixed view with automatic switchover feature and auto alignment. Live display of Plasma through Camera/TV/Software
		Torch	Demountable/Semi demountable/Single Piece using quartz with alumina injector.
		Spray chamber	Glass spray chamber; Scott / Cyclonic type
		Nebulizer	Cross Flow / Concentric of chemically resistant material
		Peristaltic pump	Integrated Four channel peristaltic pump with variable speed in steps for sample/internal standard/reagent flow. Complete with Internal Standard kit and necessary tubings
9	Plasma and other Gas control	System should be equipped with Mass Flow Controllers (MFC)/Electronic flow controllers for precise control of variable gas flow rates. Gas flow rates should be user definable. MFC should be standard with quoted model, not optional.	
10	Additional Gas Inlet	If required, Additional MFC fitted gas inlet with ability to deliver Air and/or Oxygen gas for analysis of Organic Samples	

Sr. No.	Indented Specifications	
	Parameter	Specifications
11	Hydride Kit	Continuous Hydride Generation Assembly (Complete System) with gas liquid separator
12	Data Station	Latest compatible Wi-fi enabled PC data station preferably from manufacturer with latest generation i7 processor, 16 GB RAM, On-board Graphics controller with VRAM, 1 TB HDD, 1 TB SSD, 2 TB External HDD for data transfer, Keyboard, Mouse, High Resolution 24" LED/TFT monitor, Interfaces, Min. 4 USB ports, Required HDMI / Parallel / Serial ports, LAN Card, Latest high-resolution high-speed B&W Laser Printer with Auto duplex printing facility. Licensed latest MS-Office OEM software for easy data sharing.
13	Software	Licensed instrument operation and control software (Based on Latest Version Windows Prof. Operating System with OEM support). S/W capable of Instrument operation and control, data handling and storage, calibration graph view, results display and printing, Interference correction like IEC, data backup and reporting in different formats like pdf, excel, doc with pdf reader etc.
14	Power requirement	230 Volt AC, 50 Hz Single phase $\pm 10$ volt
15	Manuals	Operation and service manual in both hard and soft copies.
16	Installation kit	Complete tool kit, spares and consumables kit required for full installation and testing, which must include following parts ---- Plasma Torch : 6 nos Injectors : 2 nos. Cyclonic spray chamber : 1 no. Axial window : 5 nos. Inlet and outlet tubing : 100 nos. each Drain tube : 5 nos. Concentric nebulizers : 2 nos.
17	Sample intro kits	One set of kit each for Aqueous, High TDS, HF and Organic samples with separate set of torch, nebulizer, spray chamber, injector, inlet and outlet tubing
18	Exhaust Hood	Compatible exhaust hood system with full installation and testing
19	Autosampler	Autosampler for minimum 250 samples capacity with integrated pump and rinse station.
20	Warranty	Minimum 03 years warranty (Including standard plus extended)
21	Training	Detailed on-site training to 02 persons for min. 5 working days for maintenance, operation and application of the instrument should be provided at no extra cost
22	Other requirement for successful operation	Argon and Nitrogen dual stage gas regulators (1 each) along with gas distribution line. Gas purification panel with gas changeover switch to connect minimum 2 cylinders with necessary oxygen/moisture traps. Complete installation to be done by vendor.