



## TENDER MANAGEMENT

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## Work Item PreBid Meeting Document List → 4/5(55)25-Pur → Upload Documents

Tender Reference Number : 4/5(55)25-Pur

Document Type : pdf

Uploaded Document : tech\_prebid\_284591.pdf

Document Size : 883.66 KBs

Document Description : Minutes of Pre-bid meeting held on 25.09.2025 at 11.30am along with revised specifications. All prospective bidders are requested to submit their offers as per the revised specifications

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**Ref:** Open Tender for the supply of Inductively Coupled Plasma Mass Spectrometer Analysis Suite (ICP-MS and OES System) (e-tender No.2025\_CSIR\_248374\_1; TENDER No: 4/5(55)25-Pur Sep 11, 2025).

**Minutes of the Pre-bid Meeting conducted on 25/09/2025 at 11.30 AM.**

In the pre-bid meeting, two firms participated: M/s Thermo Fisher Scientific India Pvt. Ltd. and M/s Agilent Technologies India Pvt Ltd. (both in person).

The meeting was convened by the Dr. Amit Chawla (Indentor) and organized by the three TSC members (Dr. Ram Kumar Sharma, Chairman, Dr. Upendra Sharma, and Mr. Bijan Bihari Garnayak, Members).

The meeting started by first inviting Mr. Piyush Deokar and Mr. Saurabh Dube, from M/s Thermo Fisher Scientific India Pvt. Ltd. Some points were discussed where they raised their concerns and suggested some amendments for generalization of the specifications. Later a written communication was also received, so only necessary amendments in the Tender Specifications were undertaken. These are detailed in Table 1: -

**Table 1:** Points raised by M/s. Thermo Fisher Scientific India Pvt. Ltd.

Tender Specs Points	Amendment Requested	Action Taken	Remarks
13. the system should have sensitivity (Mcps/ppm) parameters, including: (i) Li/Be $\geq$ 65 (ii) In/Y $\geq$ 280 (iii)U/Tl/Bi $\geq$ 300	(i) Li/Be $\geq$ 65 (ii) In/Y $\geq$ 280 (iii)U/Tl/Bi $\geq$ 450	No amendment.	Specifications are already generalized.
18. OES should have dual view (axial & radial, the radial height adjustment must be upto 18mm or more) & should be based on simultaneous technology with CCD/CID/SCD detector with bare minimum detector integration/readout time equal to less than 1s. power output should be software controlled & variable in range of 750-1500W or wider range with suitable increment step	18. OES should have dual view (axial & radial, the radial height adjustment must be upto 18mm or more) & should be based on simultaneous technology with CCD with synchronous/CID/SCD detector with bare minimum detector integration/readout time equal to less than 5s. power output should be software controlled & variable in range of 750-1500W or wider range with suitable increment step	Amended as "OES should have dual view (axial & radial, the radial height adjustment must be upto 18 mm or more) & should be based on simultaneous technology with CCD/CID/SCD detector with minimum detector integration/readout time equal or less than 5s".	The specifications are generalized.

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The second party invited was M/s Agilent Technologies India Pvt Ltd., represented by Mr. Chandra B. Rajwar. The following points were raised as given in Table 2: -

**Table 2:** Points raised by M/s. Agilent Technologies India Pvt. Ltd.

<b>Tender Specs Points</b>	<b>Amendment Requested</b>	<b>Action Taken</b>	<b>Remarks</b>
Point 15 <sup>th</sup> . An autosampler should have plate /microplate kit with at least 200 wells with cover & duct for removing toxic fumes	<b>An 200 vial autosampler (1000 vials to be included).</b> Should have plate /microplate kit with <b>at least 96 wells</b> with cover & duct for removing toxic fumes( <b>100 Nos welplate to be includes</b> )	Amended as "An autosampler should have plate/microplate kit, with at least 200 wells with cover & duct for removing toxic fumes	The amendment has been done for clear understanding.
Point 16. with flow rate precision/accuracy to be +/- 0.5%RSD or better with integrated single software platform	with flow rate precision/accuracy to be +/- 1% RSD or better with integrated single software platform	Amended as suggested.	The specifications are generalized.
Point 22. Maximum pressure capacity of 150 Bar or more	Maximum pressure capacity of 100 Bar or more	Amended as suggested.	The specifications are generalized.
Point 22. Vessel volume 80ml or more for each vessel (PTFE-TFM Teflon vessel),rotor & springs.	Vessel volume 100ml or more for each vessel (PTFE/TFM Teflon vessel, rotor & springs)	No amendment.	The targeted application would be accomplished with 80ml vessel volume.
Point 18. Detector with minimum than detector integration/readout time less than equivalent to 1sec	All ICPOES manufacture offers 1sec integration in latest models for general & routine application including M/s Thermo XPS.  <b>Refer below application link.</b> <a href="#">brjac-33-thermo-report-AN44422.pdf</a> <a href="#">Microsoft PowerPoint - 8-7-20-Metals Analysis and Remediation-9.06-Cassap.pptx</a> <a href="#">US EPA Method 200.7 Using the iCAP PRO XPS Duo ICP-OES</a>	Amended as "detector with minimum detector integration/readout time equal or less than 5s"	The specifications have been generalized.

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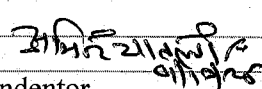

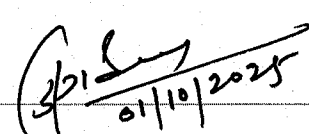
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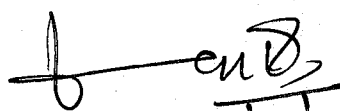
ICPMS Dilevery Schedule : 90 days	Delivery schedule : 6 months	Amended as requested	The request has been accepted keeping in mind the delivery related issues.
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Hence, the changes are as provided in Table 3.

**Table 3.** Amendments in the specifications.

S.No.	Original Specification	Amended Specification
15	An auto-sampler should have plate/micro-plate kit with at least 200 well with cover and duct for removing toxic fumes.	An auto-sampler should have plate/micro-plate kit, with at least 200 well with cover and duct for removing toxic fumes.
16	LC/IC should be of same make as ICPMS & have suitable pump (with 0.1-5ml flow rate or wider with 5000psi or more pressure range) and auto-sampler (with atleast 100 Vial capacity), with flow rate precession/accuracy to be +/- 0.5% or better and with integrated single platform software	LC/IC should be of same make as ICPMS & have suitable pump (with 0.1-5ml flow rate or wider with 5000psi or more pressure range) and auto-sampler (with atleast 100 Vial capacity), with flow rate precession/accuracy to be +/- 1% or better and with integrated single platform software
18	OES should have dual view (axial & radial, the radial height adjustment must be upto 18 mm or more) & should be based on simultaneous technology with CCD/CID/SCD detector with minimum detector integration/readout time equal or less than 1s.	OES should have dual view (axial & radial, the radial height adjustment must be upto 18 mm or more) & should be based on simultaneous technology with CCD/CID/SCD detector with minimum detector integration/readout time equal or less than 5s.
22	A high quality Microwave Digestion System (MDS) with 1900 W or better output, vessel able to handle working pressure 45 bar or more, maximum pressure capacity of 150 bar or more for utmost safety,	A high quality Microwave Digestion System (MDS) with 1900 W or better output, vessel able to handle working pressure 45 bar or more, maximum pressure capacity of 100 bar or more for utmost safety,

		
Indentor	Member	Member

  
Chairman

**Inductively Coupled Plasma Mass Spectrometer Analysis Suite (ICP-MS and OES) with the following specification;**

S.N.	Specifications
1.	A computer controlled Inductively Coupled Plasma Mass Spectrometer (ICPMS) with high sensitivity Triple Quadrupole, with factory supplied data acquisition system with preloaded licenced software.
2.	Quadrupoles Resolution $\leq 0.4$ to 1.0 amu in entire mass range.
3.	Quadrupoles scan speed should be $\geq 3700$ amu/sec or more from Li to U with 40 interval masses.
4.	Quadrupole mass range should be from 5-240amu or wide range.
5.	The integrated sample introduction unit should include a Peltier-cooled spray chamber with temperature range of $-5$ to $20^{\circ}\text{C}$ , & a PFA/Glass/Quartz Nebulizer, Ni Sample & Skimmer cones.
6.	A dedicated HF kit along with PFA nebulizer inert spray chamber, inert torch (ceramic based), tubing set and Platinum cone.
7.	Ion Source and RF Plasma should be computer-controlled 27/34 MHz RF generator along with hot/normal plasma conditions & cool plasma, flexible alignment plasma torch, and including compatible re-circulating chiller.
8.	ICP MS unit should have cell offering operation: Standard Mode, Collision Cell (He) Mode with KED, and Reaction mode for interference removal.
9.	The Collision Cell reaction should have three or more independent gas channels along with four mass flow controllers for collision and reaction gas utilization for pure premix or form i.e. He, $\text{H}_2$ , $\text{NH}_3$ , $\text{O}_2$ etc. with fully automatic changeover required for contamination free ultra-trace analysis.
10.	The system should have dedicated gas channel with MFC/EFC devices to control plasma, auxiliary, nebulizer, reaction gas ( 03 Nos) and collision gas.
11.	The Detector should be of 11 order or more magnitude of linear dynamic range.
12.	Turbo pump should be of differential/suitable pumping.
13.	The system should have sensitivity (Mcps/ppm) parameters, including (i) Li/Be: $\geq 65$ ; In/Y: $\geq 280$ ; U/Ti/Bi: $\geq 300$
14.	The system should have Detection limits (ppt), including Li/ Be: $< 0.50$ ; In/ Y: $< 0.25$ ; U/ Bi/Ti: $< 0.25$ ; 32S (as $\text{SO}^+$ or with suitable mode) : $< 100$ ; 31P (as $\text{PO}^+$ or with suitable mode) : $< 50$ ; 28Si (as $\text{SiO}^+$ or with suitable mode) : $< 50$ ; Oxide ratio (%) CeO/Ce $\leq 2.5$ ; Ba++ or Ce++/ Ba or Ce $< 4$ ; Background mass 4.5/9/220: No gas $< 1$ cps; Short term stability (% RSD) $< 3$ or better; Long term stability (% RSD) $< 3$ or better; Isotope ratio precision (% RSD): Ag107/Ag109 $\leq 0.3$
15.	An auto-sampler should have plate/micro-plate kit, with at least 200 well with cover and duct for removing toxic fumes.
16.	LC/IC should be of same make as ICPMS & have suitable pump (with 0.1-5ml flow rate or wider with 5000psi or more pressure range) and auto-sampler (with atleast 100 Vial capacity), with flow rate precession/accuracy to be $\pm 1\%$ or better and with integrated single platform software
17.	A benchtop computer controlled ICP-Optical Emission Spectrometer (OES) (with factory supplied data acquisition system with preloaded licenced software) should be supplied with polychromator -based optical system with wavelength range of 167.021 - 780 nm or a wider wavelength range to cover all elements and with resolution less than or equal to 0.009 nm at around 200/202nm.
18.	OES should have dual view (axial & radial, the radial height adjustment must be upto 18 mm or more) & should be based on simultaneous technology with CCD/CID/SCD detector with minimum detector integration/readout time equal or less than 5s. Power output should be software controlled & variable in range of 750-1500W or wider range, with suitable increment step.
19.	All gas requirements of ICP-OES for plasma gas, nebulizer gas, auxiliary gas, purge gas, & sheer gas must be mentioned. All applicable mass flow/gas controllers (plasma, axillary, nebulizer and makeup gas) must be variable & software controlled with less than equal to 1L/min flow settings.

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20.	The OES must include a peristaltic pump of min four channels that allow for the online addition of internal standards & simultaneous hydride element analysis with hydride generator setup with separate spray chamber & tubing set (for As, Hg & Se)
21.	The Autosampler of OES should be of atleast 200 vials capacity (with 1000 vials to be provided).
22.	A high quality Microwave Digestion System (MDS) with 1900 W or better output, vessel able to handle working pressure 45 bar or more, maximum pressure capacity of 100 bar or more for utmost safety, working temperature 250 °C or more, 15 or more vessel capacity, vessel volume 80 ml or more for each vessel (PTFE-TFM- Teflon vessel), rotor and springs, vessel capable of handling sample weights from min 1.5g & upto 3g; built-in touch screen with 4" or more size for operation.
23.	Complete set of accessories along with dedicated HF/hydride generation kit alongwith PFA nebulizer inert spray chamber, inert torch (ceramic based), tubing set (pump tubing aqueous sample (pack/12) (03 Nos.); pump tubing ISTD (pack/12) (03 Nos.); Nebulizer tubing (02 sets); spray chamber drain tubing (02 sets)); and consumables such as Tuning solution 500ml (01 nos.); Extra torch along with centre tube/injector (02 nos.); RF coils (01 Nos.); chemicals to be included for 200 run for each element; chemicals for 100 samples analysis each (Hg, As, Se) and tubing sets reductant and waste (24 each).
24.	A high-quality mineral acid fumehood (with sash material 1/4" thick or more, high quality polycarbonate vertical-rising sash with cable and pulley; also suitable for HF or better, with cabinets) of size 8ft, Type 1 unplasticized PVC liner with integral work surface, drainage, wash down system, internal piping and spray nozzles, LED lighting, PVC blower, wash rings, 316 stainless steel work.
25.	A microprocessor-controlled ultra-pure water purification system, should be a compact dual stage system, capable of producing Ultrapure water (ASTM Type 1 and Type 2 modules with prefiltration RO setup & UV in the unit, system must be two stage) from potable feed water, (water-resistivity $\geq 18.2$ M ohms-cm; TOC $\leq 4$ ppb; bacteria $< 0.1$ CFL/ml) & with high quality 60L HDPE reservoir tank; with UV lamps, CO <sub>2</sub> Trap and level sensor; with certification (both UL508 & UL840).
26.	All-in-one PC (intel core i7 13 <sup>th</sup> generation or better), 1TB SSD, 16GB DDR4 RAM or better, 32 in display or better, pre-loaded Windows 11 Professional or better (integrated webcam, with OEM warranty) with independent software keys/user access for offline analysis and branded auto-duplex LaserJet color printer.
27.	21 CFR part 11 compliance software and compliance of all other requirements for NABL accreditation. IQ/OQ should be performed every year during warranty period.
28.	Supplied with good quality separate stainless steel Exhaust Hoods with all accessories for ICPMS-OES and MDS .
29.	Gas Purification Panel for separately for both ICPMS and OES (01 each)
30.	Free-standing acid storage cabinets 02 nos or more with vents ducts and chemical storage cabinet made of corrosive resistant material
31.	IGBT based 30 KVA online UPS (Three-phase input and Single-phase output) with isolation transformer with 30 minutes of backup on full load. UPS should be supplied with suitable TPN, DP with the box for i/p and o/p & 80m Cable.
32.	Three 2.0 ton automatic hot and cold ACs with timer circuits and MCBs suitable for controlling room temperature.
33.	Noise less oil free scroll Air Compressor (if required for instrument operation).
34.	All the required accessories and consumables for a minimum of 200 runs for each speciation studies of As, Hg, Cr; with column, and standards for speciation for As, Hg, Cr, Se (complying FSSAI/US FDA/MOEF&CC guidelines).
35.	The vendor should supply requisite number of consumables for ICP-MS: Sample tubes (60 nos.); drain tubes (60 nos.); internal standard tubes (60 nos.); Ni Sample Cones (03 nos.); Ni Skimmer Cone (03 nos.); Pt Sample Cone (01 nos.); Pt Skimmer Cone (01 nos.); Quartz Nebulizer (03 nos.); Spray Chamber (02 nos.); Plasma Torch (05 nos.); Quartz Injector (05 nos.); Autosampler tubes/vessels: 2000 (nos.); Autosampler tubings (02 sets); Autosampler probe (01 set); Graphite gasket (06 nos.); Torch bonnet (02 nos.); Pt Shield (02 nos.); 50 ml centrifuge tube (1000 nos.); PFA sample tubing (5m) (02 sets); RF coil (01 set); Volumetric Flask 25ml, 50ml, 100ml (12 pieces /each); Tuning solution (1L); Cone cleaning solvent (3L); Chiller coolant (20L); Pump Oil (5 sets);

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	Variable autoclavable micropipettes (pack of 03 with variable volumes) each, along with tips (2000 each); Supra-pure grade acid 10L HNO <sub>3</sub> , 10L HCl, 10L H <sub>2</sub> O <sub>2</sub> & 2L HF; Waste containers 20L (04 nos.); Argon Gas Cylinder (10 nos.); Manifold double stage cylinder for Argon (04 stage) (02 Nos.); ICPMS Gas Cylinder for He, H <sub>2</sub> , O <sub>2</sub> , NH <sub>3</sub> . (1 Nos. with regulators for each); NIST Certified Multi element (at least 23 elements) aqueous calibration standard (100 ml): 1000 ppm, 100 ppm, 10 ppm (two sets each); Individual standards NIST-Certified 1nos.each-S,P,Hg,As 1000 ppm/100 ppm (200 ml); Internal Standards mixed NIST Certified Aqueous 400 ml each elements; Gold stock solution (400 ml); REE mixed standard (100 ml).
36.	Vendor should supply branded high quality furnitures including required civil work and services (e.g. ducting, partitioning etc.) for installations and making the equipment fully functional.
37.	A five-year warranty on the complete system including local items and one Preventive Maintenance (PM) kit per year including all accessories should be provided. PM kit should be compulsorily changed every year during 05 years of warranty period.
38.	Spare parts availability for 10 years must be provided from the date of installation.
39.	In case of any fault or malfunctioning of the equipment, time required by the company to solve the problem or time of non-working of the equipment due to non-availability of Service/Service Engineer will not be counted in the warranty period.
40.	Apart from above the vendor has to provide 8 days on site application training from factory certified application engineer.
41.	Vendor must give list of minimum 3 references in India where the quoted models (IC/LC-TQICP-MS and ICP-OES) or similar system is working satisfactorily.

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