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From: Director, CSIR-NPL
Ref No.   14-VI/SKS(1181-GTE)25PB/T-123   Dated : 24.12.2025

<u>CORRIGENDUM</u>

With reference to NPL's Tender ID: **2025_CSIR_821867_1**, for the procurement of "CHNS Analyser", a Pre-Bid Conference (PBC) meeting was concluded on 16.12.2025. Consequent upon the outcome of PBC meeting, Some changes have been made to the specifications of the captioned tender. The tender submission and opening date will remain the unchanged. **Minutes of TSC is enclosed for your reference.**

Sr. Controller of Stores & Purchase

Enclosed : TSC Minutes, Pre Bid Meeting Recommendations and Revised 'Annexure-1'

FORM TO BE FILLED BY IO WHILE CONVENING PRE-BID MEETING OF TSC.

File No. 14-VI/SKS (1181-GTE) 25-PB   **Date: 16/12/2025**

Pre-bid Meeting (To be typed clearly by the I/O)

Name of Indentor._____**Dr. Sanjoy Kumar Sheet**_____

Indent No._____**PR5031682025 14/10/2025**_____

Item Description_____**CHNS Analyser**_____

No. of Budgetary Quotes_____**Two**_____

 (1) A pre-bid meeting of TSC was held on__**16.12.2025**_____

(2) Following queries were raised by participating Bidders:

Name of the Firm	Queries Raised	Remarks, if any
1. M/s Shiva Global Teknosys (EuroVector) (Offline) 2. M/s. Elementar India Pvt. Ltd. (Online) 3. M/s. Inventis Technosys Pvt. Ltd. (Velp Scientifica) (Online) 4. M/s. 7 Steps Consultores Pvt Ltd (Thermo Fisher Scientific) (Online)	**Please see Annexure- I**	**Please see Annexure- I**

Indentor's recommendation

1. The comments, as received from bidders during PBC, and our response is as follows:

Tender Specification and its number	Comment of bidder	Response of Indentor (Accepted/ Not accepted)	Revised specification (If any)	Justification for non-acceptance
Please see Annexure- I	**Please see Annexure- I**	**Please see Annexure- I**	**Please see Annexure- II**	**Please see Annexure- I**

Final recommended specifications are as attached at **Annexure IV** and signed by I/O:

Corrigendum to Tender may be issued/ may not be issued.

Recommended Revised Date of Tender submission (if any) is

The specifications are generic and broad based.

Submitted to TSC for necessary approvals.

FORM TO BE USED BY TSC FOR FINALISING PRE-BID MINUTES

File No. 14-VI/SKS(1181-GTE) 25-PB   **Date: 16/12/2025**

TSC Minutes (To be typed clearly by the I/O)

Based on the Pre-bid meeting and recommendation of I/O, following changes have been made in the specifications:

Original Specifications	Final Specifications
As per bid document chapter-4 'Annexure- I'	Revised as per attached 'Annexure- I'

The file is forwarded to Purchase Section for uploading the final specifications and TSC minutes on the website and CPPP Portal.

Declaration: We hereby declare that we have no conflict of interest with any of the bidder in this tender

Specifications for CHNS Analyser

1. **General**
   PC Controlled Elemental Analyser with all accessories for the quantitative analysis of Carbon, Hydrogen, Nitrogen, Sulfur & Oxygen in Organic Compounds, Phytochemicals, Pesticides, Coal, Biofuels, Fossils fuel, Polymers, Pharma, Environmental samples, Soil samples etc.

2. **Mode of operation**
   CHNS in combustion mode; Oxygen in pyrolysis mode.

3. **Autosampler**
   3.1. **Capacity:** 60 position autosampler or better, may be upgradeable to 120.
   3.2. **Operation:** Zero-blank injection system
   3.3. **Flexibility:** Must allow analysis of solid, liquid samples and including viscous liquids.

4. **Furnace**
   4.1. The equipment must have two independent furnaces (combustion & reduction), with electronic temperature control.
   4.2. It should be possible to set different temperatures for combustion and reduction furnace in CHNS mode.
   4.3. **Temperature Range:** up to 1100 °C (±2 °C) or better; flash combustion up to 1800 °C or better.
   4.4. **Oxygen Determination:** Same furnace usable for oxygen pyrolysis.
   4.5. **Software Display:** Real-time display of set and actual furnace temperatures in software.

5. **Gas separation system**
   5.1. The equipment must have built in Advanced Chromatographic column for CO_2, H_2O, N_2, SO_2 separation.
   5.2. Reliable baseline separation at low N/C and S/C ratios.

6. **Detector**
   6.1. **Detector Type:** Thermal Conductivity Detector (TCD) or other suitable maintenance-free detector as per application requirements.

7. **Analytical performance**
   7.1. **CHNS Analysis Time:** ≤10 minutes per sample or better.
   7.2. **Oxygen Analysis Time:** ≤6 minutes per sample or better.
   7.3. **Sample Weight Range:** 1–250 mg or better.
   7.4. **Measuring Range:** 0.01–100% or better for all elements.
   7.5. **Precision:** ≤0.2% of absolute or better.

8. **Software**
   8.1. Windows-10 or 11 based, compatible with latest versions of software is required. Full instrument control and data handling.
   8.2. Display of set and actual pressures, flow rates, temperatures, and sample count.
   8.3. Automatic data acquisition, processing, calibration, and report generation.

8.4. Gas leak check to identify the exact leak position.

8.5. Preventive maintenance alerts and service reminders.

8.6. Control of both solid and liquid autosamplers from the same software.

8.7. Option to export results to Excel/LIMS for data management.

8.8. Software must support remote diagnostics and service support via online.

8.9. Free software upgrades, patches, and compatibility updates provided for 10 years.

9. **Gas flow control**

   9.1. Equipped with electronic mass flow controllers and digital flow sensors.

   9.2. All pressure and flow sensors must be digital.

10. **Ash collection**

    10.1. Ceramic/quartz ash fingers for samples with high inorganic/halogen/fluorine content.

    10.2. Integrated device for ash/residue removal without extracting the reactor from the furnace.

11. **Microbalance**

    11.1. Reputed brand microbalance, sensitivity at least 0.001 mg (1 µg) or better.

    11.2. Automatic weight transfer to software.

12. **Methodology**

    The equipment must comply with international standards including ASTM D5291, ASTM D5373, and DIN EN ISO 16948 for the determination for of CHN in Solid biofuels and other solid samples.

13. **Consumables**

    13.1. 4000 or more consumables for CHNS analysis.

    13.2. 1000 or more consumables for oxygen analysis.

14. **Data Acquisition System**

    14.1. PC with i7 processor

    14.2. 16 GB RAM

    14.3. 1 TB HDD and 1TB SSD

    14.4. 24-inch monitor

    14.5. Latest version of Windows professional along with keyboard, mouse

    14.6. One no. of Color LaserJet printer.

15. **UPS**

    One no. of 5 KVA online UPS with 30 minutes or more backup or more.

16. **Gas supplies**

    16.1. Helium gas cylinder 2 Nos. with (purity 99.996 % or better).

    16.2. Oxygen gas cylinder 1 Nos. with (purity 99.995 % or better).

    16.3. Double stage SS diaphragm regulators 2 Nos.

    16.4. Protocol Station for gas purification panel and distribution.

17. **Warranty**

    3 years standard warranty on complete system.

18. **Training**

    On-site training for operation, troubleshooting, applications.

19. **Accessories**

    19.1. A **vacuum oven with suitable vacuum pump**

       19.1.1. Internal dimensions (WXDXH)300mmx300mmx300mm

    19.1.2. 27 **litres or more internal volume**

    19.1.3. Operating temperature range from 50°C to **150 °C with temperature Accuracy ±** 5 °C, DigitalTemperature Setting & Control

    19.1.4. Pressure setting range: down to at least 200 mbar or lower

    19.1.5. 2 to 3 or more no. of Shelf plate

19.2. A vibration-free working table (approx. 6 ft length × 3.5 ft depth × 3–3.5 ft height) with at least two drawers and one cupboard shall be supplied for placement of the CHNS/O Analyzer, along with suitable stool/chair.

19.3. Complete in all respects, including all connection cables, extension boards, and necessary accessories.

20. Other requirements

20.1. 10 or more installations of the quoted models in India, supported with documents.

20.2. 5 or more performance certificates/Installation reports of the quoted model must be enclosed along with the bid.

20.3. Vendor must provide local service support in India with certified engineers, and should ensure that the instrument downtime does not exceed 72 hours.

20.4. Spare parts and maintenance support for 10 years or more after for the quoted model.

20.5. Point wise compliance must be submitted with documentary proof.

20.6. NPL, New Delhi may ask for physical demonstration of quoted model at any stage of technical evaluation, if required.