To

F.I.P

MNNIT

Allahabad



Please find the following clarifications on technical queries raised by the firms with ref. to Open Tender no. 70/MNNIT/Chemistry/Elemental Analyzer/2014 Dt. 14/06/2014 and the pre bid conference held on 02.07.2014 (12.30 PM)

A. M/s Skytech Systems (India) Pvt. Ltd. 4G, Gopala Tower, 25 Rajendra Place, New Delhi-1100008

Clarifications:

- 1. In the revised specifications we have separately mentioned the use of Helium and Argon as carrier gases because we want the instrument to be capable of working with: (a) only Helium as carrier gas and (b) only Argon as carrier gas.
- 2. We have specified the ultra micro balance as balance up to at least six number of digits after decimal position (gram) in the revised specifications.
- 3. In the revised specifications PC, Printer Gas cylinders and regulators have been added.
- B. M/s Shiva Global Teknologies 129, Functional Industrial Estate Patparganj Delhi-110092

Clarifications:

- 1. In the revised specifications PC, Printer Gas cylinders and regulators have been added.
- C. M/s SV Instruments Analytical Pvt. Ltd. B-10, 1st Floor Mayapuri Industrial Area, Phase-I, New Delhi-
- 1. Regarding point no. 03 of the specifications: We do not agree with logic of the supplier because greater time also increases the recurring cost in the long run. Therefore, in the revised specifications the condition, CHNS: ≤8 min has not been changed.
- 2. Regarding point no. 12 of the specifications: In the revised specifications we have maintained that the instrument must have the possibility of using both options i.e Argon as carrier gas as well as Helium as carrier gas.
- 3. Regarding point no. 05 of the specifications: The element detection range mentioned in point no. five is according to our requirements and it will remain unchanged in the revised specifications.

The revised specifications for the Elemental Analyzer are also enclosed for further necessary action.

Dr. A Pandey

Head, Chemistry Department

Revised Technical specifications of the Elemental Analyzer

1. Analysis mode options:

Option 1: CHN mode

Option 2: CHNS mode

Option 3: Oxygen mode

- 2. Upgradeability: The system must be freely upgradable at any time to add additional mode capability to suit the needs of the laboratory.
- 3. Analysis times CHN: ≤6 min, CHNS: ≤8 min, Oxygen: ≤4 min
- 4. Sample size \leq 500 mgs, depending on sample type.
- 5. Element detection range (mgs)

 $C \le 0.001 - \ge 3.6$

 $S \le 0.001 - \ge 2.0$

 $H \le 0.001 - \ge 1.0$

O ≤0.001 - ≥2.0

 $N \le 0.001 - \ge 6.0$

6. Analytical performance (based upon organic standards)

Mode: Argon Carrier Gas

Accuracy[%] / Precision [%]

CHN < 0.4 / < 0.3

CHNS < 0.5 / < 0.4

Oxygen < 0.4 / < 0.3

- 7. Diagnostics : Should monitor electronic and pneumatic components continuously, assuring best instrument performance.
- 8. Wake-up should allow automatic instrument startup, equilibration and calibration at any operator-selected time and date.
- 9. Shutdown should allow for the automatic reduction of operating temperatures at operator selected time and date.
- 9. Gas saver should provides automatic reduction of carrier gas flow rate with a built-in valve at an operator-selected time and date.
- 10. Automatic weight transfer using ultra micro balance up to at least six number of digits after decimal position (gram)
- 11. The instrument must be capable of working with Helium as carrier gas.
- 12. The instrument must also be capable of working with Argon as carrier gas.

- 13. Filled cylinders (each of at least 47 liters water capacity) one in number for each of the following gases coxygen, helium and argon, all fitted with regulators must be supplied with the instrument.
- 14. The supplied instrument must be fully complete and operational along with consumables/kits for at least 2000 experiments.
- 15. Desk top PC (Intel Corei7 4th Generation/ 6GB Memory DDR3/ 500GB, warranty 3 years onsite), Laserjet Printer with Black-and-white printing, black-and-white copying, black-and-white and colour scanning Print Speed Black: Normal: Up to 14 ppm Duty cycle (monthly, A4): Upto 5000 pages Memory, standard 32 MB Warranty: 1year) and 1KVA UPS Offline with 30min backup for PC Warranty: 1year) must be included with the instrument.
- 16. One 5 KVA online UPS to be supplied with warranty of 1year to support the instrument for smooth functioning.

17. At least three years warranty for the instrument should be provided by the supplier.