

दूरभाष :
TELEPHONE :
तार : बार्क-मुंबई, चेम्बूर.
TELEGRAMS : BARC-MUMBAI, CHEMBUR.
फेक्स संख्या : ९१-२२-२५५० ५१५१
FAX NUMBER : 91-22-2550 5151



ट्रॉम्बे,
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TROMBAY,
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भारत सरकार
GOVERNMENT OF INDIA

भाभा परमाणु अनुसंधान केन्द्र
BHABHA ATOMIC RESEARCH CENTRE
URANIUM EXTRACTION DIVISION

Ref: UED/PI.13/22/42867

Dt: May 04, 2022

To,

TENDER No: BARC/UED/SKG/22012

TENDER DUE DATE: 18.05.2022

Sub: Experimental and Analytical Works at Process Development Laboratory, UMRT & EH, UED

Dear Sir/ Madam,

Quotations are invited on behalf of Head, Uranium Extraction Division in sealed envelope for *Experimental and Analytical Works at Process Development Laboratory, UMRT & EH, UED* as per following specifications terms and conditions:

TECHNICAL SPECIFICATIONS:

Scope of work & Quantity: The scope of work includes the followings:

Sr. No.	Description	Quantity
1.	Lab and general area cleaning: Cleaning of floors for labs, lab tables and associated areas with mop and dry cloths using water, detergents and decontamination chemicals.	10,000 m ²
2.	Cleaning of used lab apparatus: Cleaning of glass beakers, funnels, cylinders and bottles etc. of 100 – 500 ml size.	10,000 Nos
3.	Standard solutions/ reagent preparation in size of 100 – 250 ml: preparation of liquid samples by blending, mixing etc.	300 Nos
4.	Standard solution preparation in size of 500 – 2000 ml: Preparation of aqueous and organic solutions (may contain natural uranium up to 400 gm/liter) and charging into feed vessels.	100 Nos
5.	Titration experiments in 125/ 250 ml beaker for determination of concentration and normality of specific ions: Titration of various samples produced in the experiments is to be carried out with prescribed reagents and indicators.	500 Nos
6.	Sample collection and preparation for analysis through spectrometer/ ED-XRF: This will involve step by step procedures prescribed for the instrument concerned; sample	400 Nos

	feeding, analysis and data recording.	
7.	Sample preparation by extraction for analysis through ICP-AES: The samples are to be prepared by 3 steps of solvent extraction process in 125 ml separating funnels to remove the dominant ions for trace element analysis.	120 Nos
8.	Liquid extraction studies at 8 stage x 250 ml separating funnels: This will include trials at bench scale equipment with solutions to study the system characteristics at various operating conditions.	50 Nos

For detailed job description and other requirements please refer to **Appendix - A** of this specification. The jobs are to be carried out in different laboratories of UED.

TERMS AND CONDITIONS

Note: [Reference: (2/Misc-9/Lgl/2001/92 dated April 30, 2001, BARC]

- I. **Confidentiality:** No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as **“Propriety”** in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.

This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by a party with equal force.

- II. **“Restricted information” categories under Section 18 of the Atomic Energy Act, 1962 and “Official Secrets” under Section 5 of the Official Secrets Act, 1923:-**

Any contravention of the above –mentioned provisions by any contractor, sub-contractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.

- III. **Prohibition against use of BARC’s name without permission for publicity purposes:**

The contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC’s name for any publicity purpose through any public media like Press, Radio, TV or Internet without the prior written approval of BARC.

PRICE: Offered cost should be inclusive of total scope of work mentioned above. Maximum possible cost break up for the execution of the job, taxes and other charges, if any, is to be provided.

VALIDITY: Price quoted should be valid throughout the currency of the contract.

TAXES: As applicable, should be clearly indicated in the offer.

COMPLETION PERIOD: The job is to be completed within **Twelve Months** from the date of receipt of the order. Any delay which is attributable to the contractor is liable for penalty @ ½% per week (max. 5 %) to be imposed on the contractor. Extension required, if any, is to be applied before validity of the Work Order is over, with proper justifications.

INCOME TAX: Income Tax @ 2% shall be deducted from vendor’s bill.

PAYMENT: 100% including taxes after receipt of the unit at our site, successful commissioning and submission of the following documents:

1. Advance Stamped Receipt.
2. Original Bill.

Special Notes:

- Vendor should have security vetting from BARC.
- The vendor has to depute a team of minimum 5 members for execution of the job as detailed below:
 1. The vendors have to depute **at least one technically qualified person** as per any one of the followings: **MSc degree in Chemistry** from a Government recognized university with minimum one year working experience in chemical/ analytical laboratories or, **BSc with Chemistry as one of the major subjects** from a Government recognized university with minimum five years working experience in chemical/ analytical laboratories.
 2. Also, vendor should depute **at least two assisting persons** (ITI/ HSC qualified persons with at least 2 years of working experience of working in chemical/ analytical laboratories) to assist in all the technical works and to execute the works of sample collection, preparation & movement, preparing standard solutions etc.
 3. The vendor has to additionally deploy **one supporting person** (with at least 2 years industrial experience in chemical plants/ laboratories) for regular cleaning, decontamination, washing, chemical and waste handling and similar works.
 4. Additionally, the vendor has to depute **one technical supervisor** with at least 3 years of similar industrial experience for supervision of daily activities, adherence to safety instructions, maintaining cleanliness and similar. The supervisor will be responsible for following up the execution of work on day to day basis.
 5. The vendor has to deploy different persons for executing different functions as described above. No two activities will be permitted to be clubbed together for one person.
- Vendor has to submit the **bio-data with qualification and the experience certificates** for all proposed working personnel with the offer.
- The vendor has to arrange for **valid PVC** for all persons to work inside BARC.
- The jobs are to be carried out inside BARC premises on normal working days and regular working hours of BARC (Mon-Fri, 9:30 – 17:30 Hrs) on regular basis to complete the job in minimum time.
- **Safety goggles, paper masks, PVC shoes, aprons, soaps, duster and towels are to be provided** by the vendor for all their persons coming for this work in required quantity.
- All safety & security guidelines that may be provided by BARC are to be strictly followed during execution of the work order.
- **The persons deployed should fulfill all the required safety guidelines of BARC and Chemical Laboratories. A small internal safety training program (2-3 weeks) will be organized by BARC in which they have to qualify the program as per various works of the job.**

Please mention clearly the **tender number, due date, party's name and subject** on the top of the envelope duly sealed and addressed to **Head, Uranium Extraction Division BARC, Trombay, Mumbai – 85.**

The quotations should be sent by **speed/ordinary/registered post** to the above address and timely delivery of the quotation is to be ensured by the party. Private courier services are not allowed.

Note: Please mention your PAN No, GST registration No. with the offer. Otherwise the offer is liable for rejection.

(SK Gupta)
SO/G, PP&ES,
UED, BARC
Tel: (022) 2559 6027

A. Detailed Scope of work

- 1. Lab and General area cleaning:** Cleaning of floors for labs, lab tables and associated areas with mop and dry cloths using water, detergents and decontamination chemicals. The wash solutions are to be collected in carboys and tagged properly.

Approx time required for the job: This activity will take about 2 hr/ day for one supporting person for the entire working period.

- 2. Cleaning of used lab apparatus:** Cleaning of glass beakers, funnels, cylinders, bottles etc. of 100 – 500 ml size using chemicals and water. After cleaning the wash solutions are to be collected in carboys and tagged properly.

Approx time required for the job: This activity may take 3 hrs/ day for one supporting person for the entire working period.

- 3. Solution/ reagent preparation in size of 100 – 250 ml:** This will involve preparation of solid/ liquid samples through
 - a. Blending and mixing of 2 or more miscible liquids in predetermined quantities
 - b. Dissolution of measured amount of solids in known volume of liquids
 - c. Blending of two or more salts/ powders in measured amounts

Approx time required for the job: 1 hr/sample for the main technical person main technical person with one assisting person.

- 4. Solution preparation in size of 500 – 2000 ml:** This job will involve preparation of various reagents and solutions as standards for laboratory use. The solutions are to be kept in proper containers with labels containing the details.

Approx time required for the job: 1 hr/ sample for the main technical person main technical person with one assisting person.

- 5. Titration studies at 125/ 250 ml beaker:** Titration of various samples produced in the experiments is to be carried out with prescribed reagents and indicators. Also, for some cases, electrode based titration may be performed by proper instruments. All titrations are to be repeated 3 times for accurate results.

Approx time required for the job: 1 hr /sample for the main technical person main technical person with one assisting person.

- 6. Sample collection and preparation for analysis through spectrometer/ ED-XRF:** This will involve step by step procedures prescribed for the instrument concerned, sample feeding, analysis and data recording.

Approx time required for the job: 2 hr/sample for one assisting person.

- 7. Sample preparation by extraction for analysis through ICP-AES:** The samples are to be prepared by 3 steps of solvent extraction process in 125 ml separating funnels to remove the dominant ions for trace element analysis.

Approx time required for the job: 3 hr/sample for one assisting person.

- 8. Liquid extraction studies at 8 stage x 250 ml batch/ continuous contactor:** This will include trials at bench scale equipment with solutions to study the system characteristics at various operating conditions. The job will include preparations, system start up, maintaining of flow rates, performance monitoring (measurement of density, interface height etc) as will be specified, sample collection and system shut down.

Approx time required for the job: About 16 working hrs/ experiment for the main technical person with one assisting person.

Note: The deployed team has to take instructions from the BARC officer for planning and execution of the jobs mentioned above. The above work include associated calculations, reporting, record keeping and similar associated activities. Also, movement of chemicals and samplings is included in the scope of work.

B. Terms and conditions:

- BARC will provide all necessary instruments, chemical reagents, working facilities and services required for carrying out the works. However, the instruments are to be handled with due care and precaution as will be explained by BARC representative at the job site.
- BARC representatives will provide necessary operational and safety guidance to the persons coming for work, hence there should not be any/ frequent change in the people deputed for the work until it is absolutely necessary.
- The analytical equipments and experimental facilities are to be handled with proper precautions to prevent any damage that may occur to personnel, equipment or samples.
- All the data pertaining to the experiments and analysis are to be recorded properly and presented on daily basis. No data shall be taken outside by any person in any form.
- Any problem found in equipment/ system is to be reported to the concerned BARC officer immediately.
- Cleanliness and good peaceful working environment is to be maintained meticulously.
- Experiments/ analysis are to be carried out strictly as per given instructions only.