

दूरभाष :
TELEPHONE :
तार : बार्क-मुंबई, चेम्बूर.
TELEGRAMS : BARC-MUMBAI, CHEMBUR.
फेक्स संख्या : ९१-२२-२५५० ५१५१
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ट्रॉम्बे,
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TROMBAY,
MUMBAI-400 085.

भारत सरकार
GOVERNMENT OF INDIA

भाभा परमाणु अनुसंधान केन्द्र
BHABHA ATOMIC RESEARCH CENTRE
URANIUM EXTRACTION DIVISION

Ref: UED/PI.13/19/122139

Dt: Nov 24, 2020

To,

TENDER No: BARC/UED/SKG/ 20078

TENDER DUE DATE: 07.12.2020

Sub: Technical Supports for Process Development Works at UMRT & EH, UED

Dear Sir/ Madam,

Quotations are invited on behalf of Head, Uranium Extraction Division in sealed envelope for *Technical Supports for Process Development Works at UMRT & EH, UED* as per following specification, 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, associated areas with mop and dry cloths using detergents and decontamination chemicals.	10,000 m ²
2.	Cleaning of used lab apparatus: Cleaning of glass beakers, funnels, cylinders, bottles etc. of 100 – 500 ml size	5,000 Nos
3.	Material & chemicals handling: Movement and delivery of various chemical bottles (1 to 5 kg), small equipment (5 – 10 kg), plant solutions in 35 liter carboy etc. (within a distance of about 100 m)	500 kg
4.	Sample preparation in size of 100 – 250 ml: preparation of liquid samples by blending, mixing etc.	200 Nos
5.	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.	80 Nos
6.	Sample collection and movement for analysis: Collection of samples from experimental set up into 50/ 100 ml bottles and sending for analysis to lab (about 100 m away from the experiment area)	400 Nos
7.	Titration experiments in 125/ 250 ml beaker: Titration of various samples produced in the experiments is to be carried out with prescribed reagents and indicators.	140 Nos

8.	Sample analysis through spectrometer etc: This will involve step by step procedures prescribed for the instrument concerned, sample feeding, analysis and data recording.	200 Nos
9.	Liquid extraction studies at 8 stage x 150 ml batch/ continuous contactor: This will include trials at bench scale equipment with solutions to study the system characteristics at various operating conditions.	20 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 various items and accessories, taxes and other charges, if any, is to be provided.

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

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

COMPLETION PERIOD: The job is to be completed within **Ten 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 vendors have to depute at least one technically qualified manpower as per any one of the followings:
 - MSc in Chemistry from a Government recognized university,
 - BSc with Chemistry as one of the major subject with minimum two years working experience in analytical laboratories,
 - HSC with science and at least 7 years with experience of working in chemical analytical laboratories.
- Also, vendor should depute at least one supporting staff (**ITI/ HSC qualified or persons with at least 3 years with experience of working in chemical plants/ laboratories**) for assist the works of cleaning, material handling, sample preparation and sample movement etc.
- The vendor has to arrange for valid PVC for all workers to work inside BARC.
- Safe handling of chemicals, equipment and instruments are to be ensured by the vendor through proper supervision.
- 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.

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
Extn: (022) 2559 6027

A. Detailed Scope of work

1. **Lab and General area cleaning:** Cleaning of lab tables, working area, floor area with wet and dry methods.
2. **Cleaning of used lab apparatus:** Cleaning of glass beakers, funnels, cylinders, bottles etc. of 100 – 500 ml size using chemicals and water.
3. **Material & chemicals handling:** Movement and delivery of various chemical bottles (1 to 5 kg), small equipment (5 – 10 kg), plant solutions in 35 liter carboy etc for day to day laboratory work from stores (~ 100 m distance)/ plant (~50 m distance).
4. **Solution 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 amountsApprox time required for the job: 25 - 30 minutes/sample
5. **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: 45 min – 1 hr/ sample
6. **Sample collection and movement for analysis:** Collection of various samples in 50 – 100 ml bottles, tagging the sample with sample slip and sending to laboratory for analysis. Approx time required for the job: 10 – 15 min/ sample
7. **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: 45 min - 1hr /sample.
8. **Sample analysis through UV- Vis spectrometer etc:** This will involve step by step procedures prescribed for the instrument concerned, sample feeding, analysis and data recording. Approx time required for the job: 1 hr/sample
9. **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 24 working hrs/ experiment.

B. Terms and conditions:

1. BARC will provide all instruments, chemical reagents, working facilities and services required for carrying out the works.
2. BARC representatives will provide necessary operational and safety guidance to the persons coming for work, hence it will be required not to change the people deputed for the work frequently.
3. 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.
4. 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 in any form.
5. Any problem found in equipment/ system is to be reported immediately.
6. Cleanliness and good peaceful working environment is to be maintained meticulously.
7. Experiments/ analysis are to be carried out strictly as per given instructions only.