

Ph. No. : 25590968  
Fax no. : 5505151  
Email: pradhanm@barc.gov.in



Hall-5, Trombay  
Mumbai- 400085

GOVERNMENT OF INDIA  
BHABHA ATOMIC RESEARCH CENTRE  
Chemical Engineering Group  
Alkali Material & Metal Division  
Process Development Section

Ref no.: BARC/ChEG/AMMD/PDS/MP/ 15/I-46932

Date: 31/03/2023

Sub: Annual Maintenance Contract (AMC) of Process Instruments.

Dear Sir,

On behalf of President of India, Undersigned of Process Development Section (PDS), Alkali Material & Metal Division (AMMD) invites you to send your lowest quotation for the above-mentioned job in a sealed envelope. Interested parties satisfying the vendor qualification criterion may please contact the undersigned for the technical specification. The terms and conditions are given below. The quotation shall reach latest by speed post at 1830 HRS on 21/04/23 and shall be opened on next working day i.e., 24/04/23 on 1400 HRS at GSS, Accounts, Central Complex, BARC, Trombay. The tender cover shall be super scribed with "Annual Maintenance Contract (AMC) of Process Instruments." on the top and shall be sent to.

Shri Mrutyunjaya Pradhan  
Scientific Officer-D  
PDS/AMMD, ChEG  
Hall-5, BARC, Mumbai-400085.

Terms & Conditions

1. Service Charges: Service Charges accepted shall be firm during the currency of the Contract.
2. Option:
  - i. While the contract is intended to be valid for a period of one year, this division reserves the right to terminate this contract by giving a notice of one month and without any financial obligation on the part of this Division. In the event of cancellation of the contract for a reason or the other the payment for service carried out will be paid on pro-rata basis.
  - ii. Proportionate amount shall be deducted from AMC charges for non-servicing period.
3. Emergency Call: Emergency/Breakdown call from the user department should be attended immediately but not later than 24 hours at no extra cost.
4. Vendor Qualification criterion:
  - i. The firm must have previous experience with similar job. The firm must submit the PO copy of similar order executed.
  - ii. The firm must be reputed authorized supplier/dealer/manufacturer of process control/automation equipment.
  - iii. The firm must have at least two employees in payroll with diploma level qualification in instrumentation/electronics/electrical discipline.
  - iv. The vendor must produce the valid PVC (Police Verification Certificate) of the employees supposed to work on this job. The valid PVC must be produced upon request.
5. Scope of work:
  - 5.1 Preventive maintenance:
    1. Maintenance & testing of solenoid valves
      - a. The valves must be tested for healthy operation during the below mentioned test conditions
        - i. No Load tests
        - ii. Full load test (In pressurized flow conditions)

- iii. Impulse step drive test, etc.
    - iv. Actuation time
    - v. Safety feedback switch operation
  - b. Maintenance of pilot pneumatic line.
  - c. Maintenance and testing of the valve manifold. Corrosion in the valve manifold must be addressed. Necessary servicing must be done on the valve stem and all the moving parts.
  - d. Solenoid valve coil maintenance and following tests:
    - i. Insulation resistance check
    - ii. Physical integrity test
    - iii. Heat-run test in energized valve state
- II. Maintenance of Mass flow meters:
  - a. Visual inspection and maintenance of the gas flow meters
  - b. Maintenance and testing of air flow line and pilot tube line.
  - c. Maintenance and testing of transmitter unit for below mentioned parameters:
    - i. Calibration check
    - ii. Repeatability test
    - iii. Gas flow meter internal configuration adjustment (viz: damping, slope, unit, dead band, URV, LRV etc)
    - iv. Two wire transmitter tests
  - d. All the necessary tests shall be performed at site using custom gas flow calibration setup
- III. Maintenance of Metal-Tube rotameter:
  - a. Visual inspection and maintenance of metal tube rotameters
  - b. Maintenance of flow line and cleaning of strainer and flow aligner unit.
  - c. Inspection for any corrosion or defect due to alkaline process media
  - d. Maintenance and testing of 2 Wire-transmitter as mentioned above in 'Para 5.II.c'.
- IV. Maintenance and testing of concentration analyzers:
  - a. Visual inspection and maintenance of toroidal sensor unit for any damage and corrosion due to chemical exposure.
  - b. Visual inspection and maintenance of and testing of transmitter module for any physical damage or anomaly.
  - c. Maintenance and testing of internal wiring and termination
  - d. Testing and verification of transmitter calibration with reference equipment. The firm may bring their reference test equipment and necessary returnable Gate-pass shall be provided for the same.
  - e. Testing and verification of the analyzers with the standard solutions.
  - f. The standard solutions and consumables shall be arranged by the vendor.
  - g. The vendor must generate a maintenance report.

#### 5.2 Breakdown maintenance

- i. Identification of fault in the system.
- ii. Rectification of fault by changing the hardware modules with spare unit or by rectifying the software etc.
- iii. Checking the entire system after rectification of the fault and ensuring the normalcy of system performance.
- iv. Analyzing the cause of failure and recommending preventive maintenance.

#### 5.3 Frequency of visits

Preventive Maintenance visits: 2 Normal visits in a year for at least 5 days.

- 6. Replacement of spare parts: The cost of the spare part replaced during the currency of the contract will be paid extra at actuals. However, the parts may be replaced with approval of user department regarding the reasonableness of cost and necessity of replacement. Request for a list of common spares needed for proper working may please be intimated to user department to enable them to stock the same.
- 7. Payment:

- i. The AMC contract amount shall be released after the completion of full contract period (12 months as per the mentioned terms & conditions in this document.
  - ii. Please forward your invoice in triplicate indicating the service contract number and date, for arranging payment.
  - iii. 100% payment for spares will be released immediately on receipt of bill duly certified by the user department indicating the spares have been actually replaced and rates are reasonable.
8. Bills:
- i. Bill and cash receipts for payment may be forwarded to the undersigned indicating our contract number for record.
  - ii. Bill for spares replaced during the service contract period may please be forwarded to Head of the Division, BARC duly certified by the user department that the spares have been actually replaced and cost is reasonable.
9. Completion Report: A completion report may please be forwarded to this Office with copy to the user department after completion of the last servicing but well before the expiry of the contract certifying that the equipment has been serviced as per the terms and conditions of the contract and also with your proposal for extension of the contract if any, indicating our contract No. and date for our consideration.
10. Please ensure that our service contract number is quoted in all correspondences and bills etc.
11. Kindly acknowledge receipt and confirm that the servicing repair will be carried out in terms of the contract.
12. Income Tax, Surcharges and Edu. Cess as applicable will be deducted from the bills.
13. SAFETY RULE & SECURITY RULE: The person shall follow all the safety procedures as per the normal industrial practice and COVID-19 appropriate behavior during the execution of the job at site. Person shall have fully vaccinated certificate from COWIN portal and updating in vaccination as per Government Guidelines as released from time to time. Any mishap occurring during the work due to unsafe workmanship shall be the vendor's liabilities. Security and transportation rules at BARC, Trombay premises shall be strictly followed.
14. Confidentiality Clause:
- 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 "Proprietary" 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, adviser or the employees engaged by a party with equal force.
  - ii. "Restricted information" categories under Section-19 of the Atomic Energy Act, 1962 and "Official Secrets" under Section-5 of the Official Secrets Act, 1923: Any contravention of the above-mentioned provision 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, 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.

Encls: As Above



(Mrutyunjaya Pradhan)  
Scientific Officer-D  
BARC, Govt. Of India

For and on behalf of The President of India

मृत्युंजय प्रधान / Mrutyunjaya Pradhan  
वैज्ञानिक अधिकारी ( D ) / Scientific Officer ( D )  
प्रक्रम विकास अनुभाग / Process Development Section  
अल्कली पदार्थ एवं धातु प्रभाग / Alkali Material and Metal Division  
भारत सरकार / Government of India  
भाभा परमाणु अनुसंधान केंद्र / Bhabha Atomic Research Centre  
ट्रॉम्बे / Trombay, मुंबई / Mumbai - 400 085.