



Government of India
Bhabha Atomic Research Centre
Atomic Fuels Division

Ref: BARC / Tenders / AFD / ESAS / 2021/

29/11/2021

Tender Enquiry

To,

Sub: Works contract for “Fabrication, Testing, Erection, Integration and Commissioning of Cooling water Header pipelines for the Vacuum Melting Furnaces at AFD”

Sealed quotations are invited for & on behalf of the President of India for Works contract for “Fabrication, Testing, Erection, Integration and Commissioning of Cooling water Header pipelines for the Vacuum Melting Furnaces at AFD”.

. The scope of work, Description and salient terms & conditions are given hereunder.

1. Scope of work

The vendor's scope of work shall include:

- 1.1 Dismantling of existing Header pipelines & disposal of same to the defined area
- 1.2 Fabrication of the Header pipelines along with necessary fittings viz. Flanges, Elbows, Reducers etc
- 1.3 Leak testing of the newly fabricated Header pipelines
- 1.4 Installation of Isolation Valves
- 1.5 Erection & Integration of new pipelines with the existing Cooling Tower & Overhead water Pipelines
- 1.6 Commissioning of the entire piping system

2. Description of work

2.1 Cooling water Header pipelines for the Vacuum Melting Furnaces

The dedicated Header pipelines shall be erected, to supply the cooling water for the Vacuum Melting Furnaces. The water shall be drawn from the Cooling Tower as well as Overhead Tank, and its flow shall be controlled by means of the appropriately located isolation Valves.

Vendor's scope of work shall include dismantling of existing Header pipelines, Fabrication & Testing of new ones, installation of Isolation Valves, Erection & Integration with the Existing Cooling Tower & Overhead water pipelines and final Commissioning of the entire piping system.

2.2 General Requirements

Vendor shall carry out detailed calculations, envisaging the requirements and arrive at the appropriate sizes & dimensions of the constituent components. Further, at the time of site visit, the vendor shall have to furnish documentary evidences to substantiate their capabilities & proficiencies pertaining to execution of such works. The admissible documentary evidences are similar nature work orders executed in the past.

The piping system shall be erected in a radioactive environment. Accordingly, the vendor shall have to adhere with the mandated radiation protection measures, while working at the site.

Vendor shall prepare fabrication drawings considering the site constraints, and submit it for the purchaser's approval before commencing the work execution. All materials, labours, consumables etc shall be in the vendor's scope of work. No additional cost claims shall be admissible afterwards. Hence, the quotations shall be submitted on lump sum basis only.

3. Technical Specifications

These specifications are meant for fabrication of cooling water Header pipelines for the Vacuum Melting Furnaces.

3.1.1	Flow media	:	Normal tap water
3.1.2	Desired flow rate	:	800 LPM
3.1.3	Working pressure	:	6 bar
3.1.4	Design pressure	:	8 bar
3.1.5	Temperature of the Incoming water	:	30 °C
3.1.6	MoC for the Header pipelines	:	SS 304
3.1.7	MoC for the Fittings & Accessories	:	SS 304

4. Fabrication

- 4.1 All fabrication shall be as per ASME Section VIII Div. 1
- 4.2 All welding shall be by SMAW only. Welding procedure and welders shall be qualified as per. as ASME SECTION IX Prior to production welding
- 4.3 All weld seams shall be ground flush after completion of welding.

- 4.4 Prior to actual production, fabrication drawings and welding procedures shall be approved by the purchaser.

5. Inspection & Quality Control

Vendor shall submit the detailed fabrication procedure along with the offer. This shall include:

- 5.1 Fabrication and inspection stages and testing methods in sequence listing all in details.
- 5.2 Procedures for welding and stress relieving.
- 5.3 Weld sequencing and identification.
- 5.4 Detailed fabrication drawing indicating weld configuration, location, weld joint identification and dished end etc. shall be submitted prior to taking up the production.
- 5.5 The vendor shall submit following Test Certificates before commencing the fabrication work. All the tests shall be arranged by vendor at his own cost.

Material Test certificates shall be required w.r.t:

- 5.5.1 Chemical composition
 - 5.5.2 Ultimate tensile strength, Y.S.
 - 5.5.3 Bend test
 - 5.5.4 Material test Certificate
- 5.6 Purchaser's representative shall have complete access to the works and vendor shall provide all necessary instruments, tools and documents etc. to conduct the checks.
- 5.7 Time schedule,
- The firm shall submit schedule for the following for timely completion of the order,
- 5.7.1 Fabrication drawings/ Fabrication schedule
 - 5.7.2 Quality assurance plan & stage wise inspection schedule
 - 5.7.3 Welding schedule and Welder's qualification

6. QAP (Quality Assurance Plan)

Vendor shall submit a documented procedure for Quality Assurance Plan and get it approved from the purchaser. The QAP shall include,

- (i) Raw material Testing (ii) Manufacturing operations (iii) Fabrication Steps (iv) In-process Inspection Stages (v) Final testing methods (vi) Welding procedures, Weld sequencing and Cleaning procedures (vii) Procedures for weld checking

7. General Technical Requirements

- 7.1 Vendor shall carry out actual measurements at site and suggest deviations (if any) to make necessary changes, if required.
- 7.2 Vendor shall prepare its own fabrication drawings as per actual site conditions and should get it approved from concerned authority before commencement of work.
- 7.3 All fabrication work shall be carried out as per approved drawings only.

- 7.4 All material supply is in the scope vendor. Vendor shall use all relevant IS standard material for this work. Material testing reports (Chemical, Mechanical etc.) from govt. approved labs should be submitted for approval. Material identification and stamping shall be witnessed by departmental representative.
- 7.5 Vendor shall have to pass weld qualification and only qualified welders shall perform this work
- 7.6 In case of any technical doubts, vendor shall contact concerned authority for clarifications.
- 7.7 Vendor shall have to arrange for Arc / TIG welding m/c. along with all consumables (welding electrodes etc) required for this work.
- 7.8 Gas cutting, arc welding, grinding work etc. shall be carried out with utmost care. Vendor shall follow all safety measures while carrying out such work. Department shall provide gas cylinders for gas cutting purpose if required.
- 7.9 Burrs, sharp edges, projections etc. caused due to cutting, welding etc shall be removed to maintain smooth surface. Vendor shall maintain best quality workmanship.

8. Inspection and final acceptance

- 8.1 Physical verification of entire structure as per technical specifications.
- 8.2 All weld surfaces shall have a smooth finish for easy decontamination.
- 8.3 Vendor shall clear off all left out material at the end of the work and ensure clean work area before handing over.

9. Vendors shall have to provide the tentative conceptual design of the structure at the time of site visit. Vendors having knowledge and experiences of preparing above mentioned documentations, BARC procedures, standard welding procedures, safety procedures, material testing and inspection facilities, calibrated equipments etc. shall be preferred for the work contract.

10. Terms & Conditions

- 10.1 Work completion period is SIX weeks from the date of issue of the work order.
- 10.2 Taxes, if any, shall be specified separately. Percentage of GST payable or included in the offer should be shown separately, i.e., Basic cost. Rs. XXXXX/- plus GST Rs. YYYYY/-= Total Rs. ZZZZZ/-.
This work is intended to be used for R&D purpose, hence, GST@5% along with GST concession certificate will be provided.
- 10.3 Any delay which is attributable to the vendor is liable for penalty @ ½ % per week (*max. 5%*) to be imposed on the vendor.
- 10.4 In case of delay in work completion, vendor may send request letter to concerned authority for extension in work completion period with proper justification for delay in work. Concerned authority may or may not give extension with or without penalty depending on the justification for delay.
- 10.5 Income Tax and other Cess / Surcharges, as applicable, will be deducted from the Vendor's bill.
- 10.6 Vendor should give guarantee for a minimum period of One Year for the workmanship.
- 10.7 Vendor may furnish their PAN & copy of GST Registration Certificate.
- 10.8 100% payment will be arranged after satisfactory completion of work at AFD and on submission of,
 - i) Bills in triplicate,
 - ii) Advanced stamped receipt
 - iii) Delivery Challan
 - iv) Guarantee Certificate
- 10.9 Min. two workers & a supervisor shall be present at site during the work. During erection & commissioning of the furnace. The supervisor shall be experienced enough for safety (*fire & personal*) to oversee the site activities.

- 10.10 The upkeep of area is the responsibility of vendor. Any unwanted or extra materials shall be kept at designated area which will be shown by departmental supervisor. For elevated jobs proper Safety Belts shall be used by all workers.
- 10.11 Vendor shall obtain police verification certificate (PVC) for all his employees including his supervisors and workers engaged in the work.
- 10.12 Vendor shall obtain Medical Fitness certificates for all his workers involved in this work.

11. Confidentiality clause

- No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any conformation identified as "Proprietary" in nature by the disclosing party shall be kept strictly confidentiality 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.
- "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.
- Prohibition against use of BARC's name without permission for publicity purposes:

"The contractor of 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, T.V. or Internet without the prior written approval of BARC"

12. Site Visit

The vendors shall have to visit the site to asses & comprehend the scope of work, and the same will be arranged by the undersigned. Vendors must have the previous in the similar nature of work along with quality assurance plan, and should provide documentary evidence for the same while requesting for the site visit. The site visit shall be cleared only after verifying the credentials of the vendor. The quotations submitted without documentary evidences of experience will not be considered.

The site can be visited from 13/12/2021 to 14/12/2021 between 10.00 hrs to 14.00 hrs on working days only. However, for site visit, prior intimation of at least two working days is required for arranging the entry permits etc. The quotations submitted without site visit will NOT be considered.

- 12.1 Vendor shall have to carry valid Photo identity card (Driving license, passport, Aadhaar Card) while visiting this premises. Failing to bring valid identity cards, vendors will not get access into our premises. Further, entry permits will not be arranged for next dates if vendors unable to visit the site on permitted dates for any reasons. Vendor should not carry any type of electronic items such as mobile, pen drive, camera etc with him/her at the time of visit.

12.2 For preparing entry permit, you can contact the undersigned on Ph. No. 25594927 or can e-mail to hsharma@barc.gov.in giving complete details of Firm, name of visitors, occupation/ designation, identity proof, PVC details, probable date of visit etc.

13. Quotations are to be in printed letter head / quotation format which should consists of GST registration number registered with local authority / GST authority, PAN of the firm etc. Quotations that are received in computer generated form will be considered as invalid & rejected.
14. Sealed quotations must be forwarded by Registered Post or Speed Post ONLY. Quotations forwarded through any other routes will not be considered.
15. Sealed quotations should be super scribed on the envelope with the reference number of this letter, and should be addressed to and reached by 24/12/2021 (16.00 hrs) to:

Shri Hariom Sharma
TO/D, Engineering Services & Automation Section
Atomic Fuels Division
Bhabha Atomic Research Centre
Trombay, Mumbai-400085

Hariom Sharma
TO/D, ESAS, AFD

sd/-
Surendra Kumar
Head, Engineering Services & Automation Section
Atomic Fuels Division
(For & on behalf of The President of India)