



Government of India
Bhabha Atomic Research Centre
Beam Technology Development Group
LASER & PLASMA TECHNOLOGY DIVISION
Mumbai - 400 085.

Ref : LPTD/Hall-6/Works/RPS/2021-22/ 01

Date : 13/12/2021

To,
All Parties

Sub: Minor Fabrication – invitation of quotations.

Dear Sirs,

1. Quotations are invited for the Pumping system of plasma gasifier scrubber, as per technical specification and scope of work. .
2. Bidder shall quote for Pumping system of plasma gasifier scrubber, as per technical specification and scope of work in Prip-shed, BARC.
3. Taxes and excise duties shall be quoted separately. Form 'H' shall be provided where necessary.
4. The quotations must reach, Head, Laser & Plasma Technology Division by **31/12/2021** and sent in a sealed envelope SUPERSCRIBED with the above **Ref. No. and due date.**
5. The address on the envelope should reach :
The Head
Laser & Plasma Technology Division
Bhabha Atomic Research Centre
Trombay, Mumbai – 400 085.
(Attn. : Shri K K Mishra)
7. The Refurbishment work shall be a site job. The work shall be done under the supervision of our engineer. Necessary tools and man powers shall be arranged by bidder during Refurbishment work.
8. The bidder shall complete the fabrication works within 45 days from the date of purchase order issued by the firm.
9. Head, Laser & Plasma Technology Division, BARC reserves the right to accept/reject any or all Quotations without assigning any reason.
10. Quotation must include your GST Registration No. & PAN No.
11. Quotation shall be opened on 03/01/2022 at 2:00 pm.
12. Quotations will not be opened in the presence of any vendor.

Yours faithfully,

वैज्ञानिक अधिकारी / Scientific Officer
लेसर एवं प्लाज्मा प्रौद्योगिकी प्रभाग
Laser & Plasma Technology Division
भारत सरकार / Government of India
भा. प. अ. केंद्र / B.A.R.C.
द्रौम्बे, मुंबई / Trombay, Mumbai - 85

Encl. As above.

C.C. AAO(Works)

General Specifications

1.0 Free issue materials

- 1.1 The free issue supply material issued by the purchaser to the fabricator shall be covered by insurance policy taken by the fabricator at his own cost for its full value.
- 1.2 The insurance policy shall cover losses of damages to the purchaser's materials due to fire, riot strikes, theft, civil commotion etc. or any other cause.
- 1.3 The insurance policy shall be valid only till the date of actual delivery of the components to the purchaser.
- 1.4 The purchaser shall be named as the beneficiary.
- 1.5 The fabricator shall retain the balance material such as scraps, outputs, etc. after the fabrication to the purchaser.
- 1.6 Free issue material is not issued, and shall be issued to fabricator

2.0 Quality surveillance, inspection and inspection report

- 2.1 All work covered by the specification shall be subject to quality surveillance by the purchaser or his authorized representative for which purpose the fabricator shall allow access at all reasonable time during manufacture to
 - 2.1.1 The premises in which the work is being carried out.
 - 2.1.2 The drawing and/or tooling involved.
 - 2.1.3 Gauge instruments, etc. required for inspecting the work.
- 2.2 Inspection and tests shall be carried out by the fabricator as per the requirements detailed in the drawings and these specifications.
- 2.3 The fabricator shall submit three copies of inspection report to the purchaser for approval.
- 2.4 Components found unsatisfactory as to workmanship or material shall be removed by fabricator and replaced by components, which are satisfactory.
- 2.5 Fabricator shall use materials as specified by the purchaser and submit to the purchaser, the material test Certificate for his approval.
- 2.6 The finished components shall not be dispatched prior to approval by our engineer at bidder's works.

3.0 Delivery

- 3.1 The bidder shall deliver the finished components within **45 days** after approval of fabrication drawings by our engineer.

4.0 Subcontract

- 4.1 The fabricator shall not sub-contract any or all the work without written consent from the purchaser, The Fabricator shall be responsible to the purchaser for all work of the sub-contractor of the fabricator, if allowed by the purchaser.

5.0 Tax

- 5.1 H form will be issued if necessary.
Income Tax @ 2% from your bill.
Guarantee certificate/warranty certificate may be obtained from the party and forwarded along with the bills.

6.0 Payment:

- 6.1 Payment shall be made only on satisfactory completion of work and on production of bill, advance stamped receipt and guarantee / warranty certificate.
- 6.2 Party shall be fill up ECS form along with pre-stamp receipt at the time of payment.

7.0 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, 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 provision by any contractor, sub-contractor, consultant, advisor 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 purpose:-

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

Technical specifications and scope of work

This technical specification and scope of work is for Pumping system of plasma gasifier scrubber. The wet scrubbing is used to neutralize and cool the high temperature (1000-1100 C) acidic and corrosive nature of flue gasses which are produced after burning the municipal solid waste (MSW) in a plasma gasifier plant. During operation the flue gasses and particulate matters are cooled and neutralized by a sprinkling of NaOH solution at two different positions with suitable nozzles- pipe lines arrangement in venturi scrubber. The heat of flue gasses is taken away by NaOH solution in such a way that the effect of sudden cooling can be realized. The particulate matters in the flue gasses are scrubbed out, which left slurry-like NaOH solution in the NaOH tank. NaOH solution is fed into the venturi scrubber system with the help of specially designed a centrifugal pump made of SS-316 or equivalent material CF8M. A typical flow of 200 LPM in both nozzles pipelines of venturi scrubber are required. After the interaction of NaOH solution with flue gasses, the solution became not only slurry like but also hot by absorbing the heat from flue gas. A secondary cooling water system having temperature 15-20 C with suitable heat exchanger compatible with hot NaOH solution is used to maintain the operating temperature of 60-70 C of NaOH solution.

Scope of work

1. This is a custom-built job. Vendor shall visit the site and understand the job and site-specific requirements complete in all respect.
2. Vendor shall prepare the detailed designed drawing based on technical specification, site requirement, and interconnection with other sub system of the customized pumping system and get approval from our Engineering in charge.
3. The vendor shall fabricate the job as per approved design and drawing.
4. The vendor shall be liable to do require modifications if any to match the interconnectivity with other sub system at BARC site.
5. The vendor shall install and demonstrate the entire pumping system, which is fully operational in complete way.

General Guideline

- a. There is no free issue of material.
- b. The vendor shall bring labor with valid PVC to work inside BARC.
- c. The works shall be carried out during shutdown period only.
- d. The vendor shall work in co-ordination with plant people. The job shall be inspected by plant people from time to time.
- e. Vendor should understand the quantum and nature of works mentioned in the tender then they quote .

Kalish Ch Mishra

Ravi
R. P. Singh
SA/E