



Government of India  
Bhabha Atomic Research Centre  
**Atomic Fuels Division**  
*Technical Services Section*

Ref: AFD/TSS/2019

September 9, 2019

**Tender Enquiry**

To,

**Sub: Works contract for “Design, Fabrication, Supply and Erection of Gas Cylinders Storage Facility at AFD”**

Sealed quotations are invited for & on behalf of the President of India for Works contract for “Design, Fabrication, Supply and Erection of Gas Cylinders Storage Facility at AFD”. The scope of work, general description and salient terms & conditions are as follow:

**Scope of Work and General Description**

The scope of work involves following:

Design, Fabrication & Erection of Gas Cylinders Storage Facility consisting of:

- i) Dismantling & removal of existing structures at site
- ii) Construction of Gas Cylinders Storage Facility, as described in the Tender enquiry

**1. General Description**

This Gas Cylinders Storage Facility is meant for safe storage and easy removal of various types of gas cylinders at AFD.

This storage facility shall be designed to store 30 Nos. of gas cylinders in vertical position and shall be constructed using structural steels and Galvalume sheets. Further, the facility shall have future provisions for storing additional 12 Nos. cylinders at the adjacent space. There shall be maximum 3 Nos. of cylinders placed in one row. SS 304 chains (*breaking strength as 10,000 N of static load*) at two locations (Top & Bottom) shall be provided for locking of the cylinders. The tentative static design loads on structural beams and columns can be taken as 5,000 N/m<sup>2</sup>. The supplier shall carry out design calculations and arrive at the appropriate steel sections and their sizes.

Furthermore, the storage facility shall be designed to withstand its structural integrity at above stated loads and dynamic loads (viz. varying wind load at the velocity of 0 to 5 meter/sec). The due justifications for the structure members' dimensions thus arrived, shall be submitted along with the quotations for the purchaser's approval.

The existing floor of the defined place shall be levelled using PCC. The schematic layout displaying the general arrangement is attached herewith. However, the supplier shall make his own fabrication drawings and submit them for approval of the purchaser, before commencing the work execution. Although, the vendor shall carry out the detailed design calculations, however, for structural constructions, minimum sizes of structural members shall be:

1.1	Columns	→	75x75x5 mm square Pipe
1.2	Cross Beams	→	50x50x6 mm square Pipe
1.3	Galvalume Sheet supporting Beam	→	25x25x3 mm square Pipe
1.4	Standard Galvalume Sheet	→	Standard 1.5 mm thick
1.5	SS 304 Chain	→	Having breaking strength as 10,000 N static load

## 2. Technical Specifications

2.1	Length of proposed facility	:	10,000 mm
2.2	Width	:	1,800 mm
2.3	Overall height	:	3,500 mm
2.4	Clear height at the entry side	:	3,000 mm

The supplier shall have to take comprehensive responsibility for execution of the above work. All materials, consumables, labour work etc shall be in the scope of supplier.

## 3. Fabrication

- 3.1 All fabrication shall be as per ASME Section VIII Div. 1
- 3.2 All welding shall be by SMAW only. Welding procedure and welders shall be qualified as per. as ASME SECTION IX Prior to production welding
- 3.3 All weld seams shall be ground flush after completion of welding.
- 3.4 Prior to actual production, fabrication drawings and welding procedures shall be approved by the purchaser.

## 4 Inspection & Quality Control

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

- 4.1 Fabrication and inspection stages and testing methods in sequence listing all in details.
- 4.2 Procedures for welding and stress relieving.
- 4.3 Weld sequencing and identification.
- 4.4 Detailed fabrication drawing indicating weld configuration, location, weld joint identification and dished end etc. shall be submitted prior to taking up the production.
  - 4.4.1 Material Test certificates shall be required w.r.t:
    - 4.4.2 Chemical composition
      - 4.4.3 Ultimate tensile strength, Y.S.
      - 4.4.4 Bend test
      - 4.4.5 Material test Certificate
- 4.5 All tests shall be arranged by supplier at their own cost.
- 4.6 Purchaser's representative shall have complete access to the works and supplier shall provide all necessary instruments, tools and documents etc. to conduct the checks.
- 4.7 Time schedule
 

The firm shall submit schedule for the following for timely completion of the order,

  - 4.7.1 Fabrication drawings/ Fabrication schedule
  - 4.7.2 Quality assurance plan & stage wise inspection schedule
  - 4.7.3 Welding schedule and Welder's qualification

## **5 QAP (Quality Assurance Plan)**

Supplier shall submit a documented procedure for Quality Assurance Plan and get it approved from the purchaser. QAP should 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

## **6 General Technical Requirements**

- 6.1 Supplier shall carry out actual measurements at site and suggest deviations if any to make necessary changes if required.
- 6.2 Supplier shall prepare its own fabrication drawings as per actual site conditions and should get it approved from concerned authority before commencement of work.
- 6.3 All fabrication work shall be carried out as per approved drawings only.
- 6.4 All material supply is in the scope supplier. Supplier 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.
- 6.5 Supplier shall have to pass weld qualification and only qualified welders shall perform this work
- 6.6 In case of any technical doubts, supplier shall contact concerned authority for clarifications.
- 6.7 Supplier shall have to arrange for Arc / TIG welding m/c. along with all consumables (welding electrodes etc) required for this work.
- 6.8 Gas cutting, arc welding, grinding work etc. shall be carried out with utmost care. Supplier shall follow all safety measures while carrying out such work. Department shall provide gas cylinders for gas cutting purpose if required.

6.9 Burrs, sharp edges, projections etc. caused due to cutting, welding etc shall be removed to maintain smooth surface. Supplier shall maintain best quality workmanship.

## **7 Inspection and final acceptance**

- 7.1 Physical verification of all items as per technical specifications.
- 7.2 All weld surfaces shall have a smooth finish for easy decontamination.
- 7.3 Supplier shall clear off all left out material at the end of the work and ensure clean work area before handing over.

8 Suppliers shall have to provide the tentative conceptual design of the structure at the time of site visit.

9 Suppliers 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 THREE months 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/-.
- 10.3 Any delay which is attributable to the contractor is liable for penalty @ ½ % per week (max. 5%) to be imposed on the contractor.
- 10.4 In case of delay in work completion, supplier 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 @2% will be deducted from the Suppliers bill.
- 10.6 Supplier should give guarantee for a minimum period of One Year for the workmanship.
- 10.7 Contractor may furnish their PAN no. & 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) ii) Advanced stamped receipt
  - iii) iii) Delivery Challan,
  - iv) 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 contractor. 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 Contractor shall obtain police verification certificate (PVC) for all his employees including his supervisors and workers engaged in the work.
- 10.12 Supplier 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

13 **The contractor shall have to visit the site to assess & comprehend the scope of work, and visit will be arranged by the undersigned. Vendor must have the previous experience of design, fabrication and erection along with quality assurance plan and should provide documentary evidence for the same while requesting for the site visit. The site visit shall only be cleared after verifying the credentials of the vendor. The quotations submitted without documentary evidences of experience will not be considered.**

13.1 The site can be visited from 16/09/2019 to 17/09/2019 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 necessary for arranging the entry permits.

**The quotations submitted without site visit will NOT be considered.**

13.2 Contractor 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. Contractor should not carry any type of electronic items such as mobile, pen drive, camera etc with him/her at the time of visit.

13.3 For preparing entry permit, you can contact the undersigned on ph. No. 25594927 or can mail to [hsharma@barc.gov.in](mailto:hsharma@barc.gov.in) giving complete details of Firm, name of visitors, occupation/designation, identity proof, PVC details, probable date of visit etc.

14 Quotations are to be in printed letter head / quotation format which should consists of sales tax registration number registered with local ST authority / CST authority, PAN of the firm, service tax registration number etc. Quotations that are received in computer generated form will be considered as invalid & rejected.

15 Sealed quotations must be forwarded by Registered Post or Speed Post ONLY. Quotations forwarded through any other routes will not be considered.

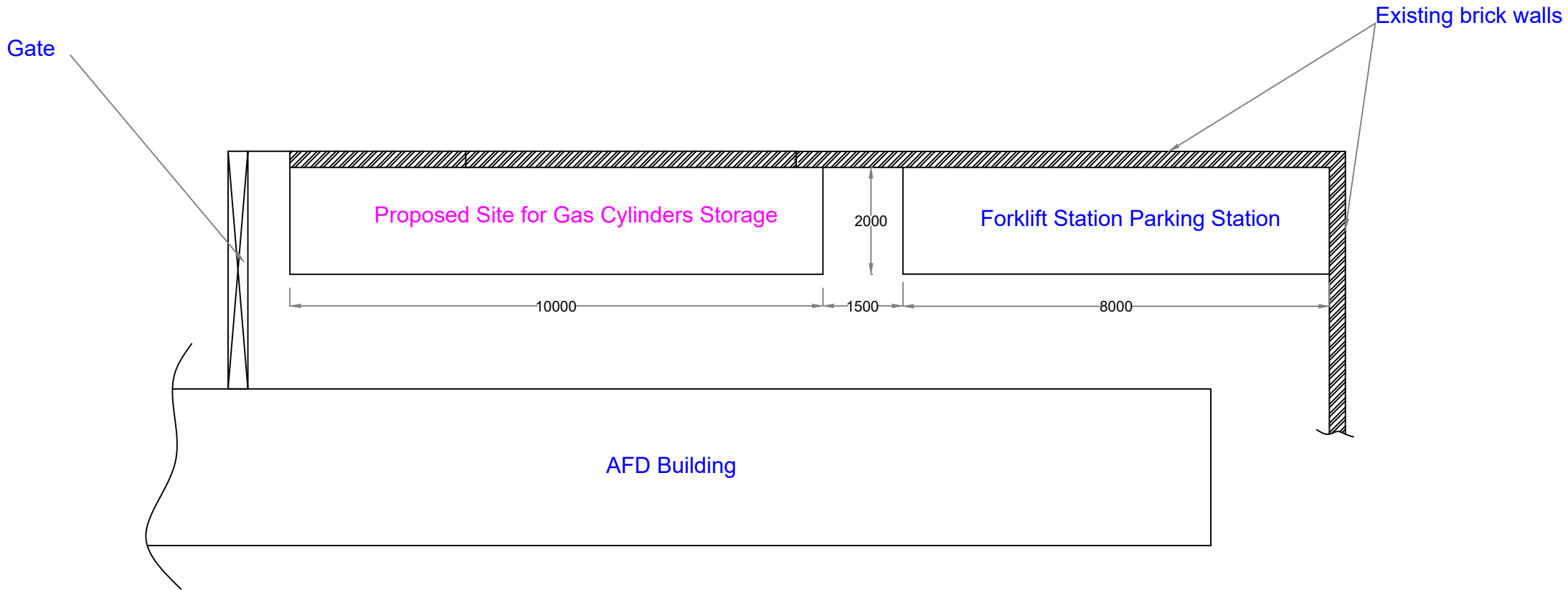
16 Sealed quotations should be super scribed on the envelope with the reference number of this letter, and should be addressed to and reached by 27/09/2019 (16.00 hrs) to:

**Shri Hariom Sharma**  
TO/D, Technical Services Section  
Atomic Fuels Division  
Bhabha Atomic Research Centre  
Trombay, Mumbai-400085

Hariom Sharma  
TO/D, TSS, AFD

**Surendra Kumar**  
**Scientific Officer - H, TSS, AFD**  
(for & on behalf of The President of India)

*encl:*            *as above*



Site Layout of proposed Gas Cylinder Storage Facility