

TENDER ENQUIRY

Ref.: AFD/ESAS/TE/6/2022/ **I/24370**

June 9, 2022

To,

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Sub: Tender enquiry for “Design, fabrication, erection and installation of Mild Steel flooring with supporting structural grids filled with PCC alongwith removal and safe disposal of existing PCC & tiling at AFD as per layout drawings and specifications”

Sealed offer is invited for and on behalf of The President of India for “Design, fabrication, erection and installation of Mild Steel flooring with supporting structural grids filled with PCC alongwith removal and safe disposal of existing PCC & tiling at AFD as per layout drawings and specifications”.

The scope of work, technical specifications, general technical requirements and terms and conditions are attached in *Annexure-I*.

Your offer in sealed envelope bearing “**Tender Enquiry No. & Due Date**” should be sent to the following address, so as to reach on or before 01/07/2022 by **Registered/Speed post only**.

To,

Shri P.J. Patil,
SA/F, ESAS,
Atomic Fuels Division
Bhabha Atomic Research Centre, Mumbai -400085

Offer received through courier or person or after Due Date will be treated as Invalid.

Patil

(P. J. Patil)
SA/F, ESAS, AFD

Surendra Kumar
(Surendra Kumar)

Head, ESAS, AFD

(For & on behalf of The President of India)

A) Scope of Work and Specifications:-

The scope of work shall involve Design, fabrication, erection and installation of Mild Steel flooring with supporting structural grids filled with PCC alongwith removal and safe disposal of existing PCC & tiling at AFD as per layout drawings and specifications.

1) Design parameters:

- i. Design load bearing capacity of metallic flooring: Min. 5 Tons / m²
- ii. Environmental conditions: humid
- iii. Flatness of the top surface shall be maintained within 2 mm / m. Top surface shall be smooth and welding to be ground finished.
- iv. Welded joints shall be DP tested and joints shall be cleaned properly.
- v. Metallic flooring shall be designed to meet above requirements to sustain forklift movements for raw material transportation, equipments shifting, storage of heavy materials etc.
- vi. The tentative layout drawing and specifications are provided for reference and dimensional limitations only.
- vii. **Entire Supply of material is in the Supplier's scope only.** Suppliers shall prepare its own design and fabrication drawings and get it approved. It is to be ensured by the supplier that the fabricated metallic flooring grid structure have sufficient rigidity, strength, stability and life to serve intended purpose. Hence, estimation of total quantity and weight of material for this fabrication work is the responsibility of supplier.

2) Cutting, removal and safe disposal of existing pcc/tiled flooring:-

- i. Existing pcc/tiled flooring shall be chipped, cut, removed from its location upto 125 mm depth from floor level. Total volume of tiled/pcc flooring to be removed is ~11 m³ and weight of the concrete waste/scrap shall be ~ 22Tons approx.
- ii. All removed concrete waste/scrap shall be safely disposed off at designated location only after getting clearance from health physicist.
- iii. All cutting, chipping, breaking of slab activities shall be carried out with utmost care.

3) Laying of new pcc bed :-

- i. New concrete PCC bed of M20 grade shall be prepared for entire area of min. 75 mm thickness.
- ii. PCC flooring shall be leveled and kept for sufficient time for curing sothat strong rigid base is obtained. Total volume of fresh pcc flooring shall be ~10 m³ and weight of the concrete shall be ~ 20Tons approx.
- iii. Overall slope shall be maintained within 5 mm

4) Design, fabrication and supply of new MS structural grid as per drawings and specifications:-

- i. Grids shall be fabricated from standard MS structural 'C' channels, angles, and flats/strips as per approved drgs. Min. sizes of ISMC 75x40, angles ISA 40x40x6 shall be considered in the design
- ii. Design of the grid shall be such that it shall sustain a load of min. 5 tons/m².
- iii. Outer frame dimensions of each grid shall be 2.5Mx1.25M made out of C channels.
- iv. Angle stiffeners shall be provided for rigidity of structure and as a support for top plates.
- v. At bottom position of grids, anchor base plates having 16 mm centre holes shall be welded for anchoring purpose. These base plates shall be strengthened by 4 corner gussets.

5) Fabrication & Supply of anchor bolts M16x4" long:-

- i. Supplier shall provide standard MS anchor fastener bolts of size M16x 4" long = qty ~184 nos. min.

6) Drilling of 16 mm dia holes into existing PCC flooring and anchoring of grid with PCC:-

- i. Existing PCC flooring shall be leveled for fixing of the grids.
- ii. Holes for size 16 mm dia x 4" long anchor bolts shall be drilled into PCC flooring at specified location as per drg. for accommodating anchor bolts.
- iii. MS structural grids shall be fixed onto the floor and then anchor fastener bolts shall be pushed through the base plate to fix the grids with floor.
- iv. It is to be ensured that the grids are firmly fixed to the existing PCC flooring and shall be aligned properly to maintain top side of grids in line with adjacent grids.
- v. All grids top level shall be uniformly maintained and aligned with adjacent one.

- vi. Once all grids are anchor fixed in exact locations, entire vacant portions/gaps of grids are filled with cement concrete and shall be leveled upto the top surface of grids.
- 7) Fabrication & Supply of MS top plates of min. 16 mm thick having 8mm dia drilled holes/slots:-**
- i. MS top plates of size 2.5Mx1.25Mx16 mm thick min. shall be provided by supplier. Qty. = ~23 nos, ~70M² min. or as per site requirement.
 - ii. These plates shall be trimmed accurately to maintain the size and further its alignment with grid and adjacent plates.
 - iii. All sides of the plates shall be right angled and exactly match with the grid sides. Plate ends shall be machined V grooved for obtaining single V butt weld joints.
 - iv. Holes/slots of dia 8 mm shall be drilled at specified locations on each plate for plug welding of plates to the grids.
- 8) Fabrication, erection and fixing of top plates on to the grid by SMAW and staggered weld joint at outer periphery:-**
- i. MS top plates shall be plug welded to the MS grids at predrilled holes/slots locations. This will fix the top plates to grids firmly. Qty ~ 345 plug welds of size 8 mm dia
 - ii. In addition to plug weld joints, end fillet welds of top plate with outer frame shall be done to take care of shear loads. These welds shall be staggered symmetrically along the length.
 - iii. This welding of MS to MS is to be carried out by SMAW. Supplier shall arrange for welding electrodes required for this work.
 - iv. Single V Butt joint welding of outer edges of MS plates shall be carried out by appropriate grade electrodes by SMAW only.
 - v. It is to be ensured that all the mating edges of MS plates shall be fully welded so that no gap should be visible on top surface.
 - vi. It is to be taken care of that distortion of plates should not occur. Necessary fixtures, clamping, tack weld first and slow welding shall be arranged suitably for minimizing distortion Burrs, rough surface, projections, weld beads etc. caused due to welding shall be removed by grinding and buffing operation to obtain smooth surface finish.
- 9) Painting of entire structure:-**
- i. Scaling shall be removed by chipping or using wire brush of all welded joints of structure to make it smooth. If required polish papers can also be used to make surface smooth and rust free.
 - ii. Entire structure shall be coated with min. one coat of red-oxide primer.
 - iii. Entire structure shall then be painted with two coats of enamel paint of black color.
 - iv. Sufficient time shall be given for soaking/drying of each coat of paint.

B) General technical requirements:-

1. Entire supply of material is in the scope of Supplier. Supplier shall utilize all relevant IS standard materials.
2. All structural material shall be tested for Mech, Chem tests as per relevant test standards. Tests shall be performed at standard, NABL accredited labs only. Supplier shall bear the charges of material testing. Material identification, testing shall be witnessed by departmental concerned person.
3. Supplier shall carry out actual measurements at site and suggest deviations/corrections/modifications if any to make necessary changes if required.
4. In case of any technical doubts, supplier shall contact concerned authority for clarifications.
5. Supplier shall have to arrange for arc/tig welding m/c along with all consumables (welding electrodes etc) required for this work.
6. All welding shall be carried out by SMAW technique.
7. 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 depending upon availability of gas cylinders in stores, otherwise supplier shall apply other safe metal cutting methods.
8. Burrs, sharp edges, projections etc. caused as a result of cutting, welding etc shall be removed to maintain smooth surface. Workmanship of best quality should be maintained.
9. Supplier shall use its manpower to shift, move or clear off any material lying at site to make the work site available for use before commencement of the fabrication work at its own cost.
10. Supplier shall clear off all left out/unwanted material at the end of the work and ensure clean work area before handing over it for departmental use.

11. Supplier should have previous experience in metal fabrication and erection work or similar site work along with quality assurance plan and should provide documentary evidence of the same for site visit clearance.
12. Suppliers having knowledge and experiences of preparing documentations, BARC procedures, standard welding procedures, safety procedures, material testing and inspection facilities, calibrated equipments etc. shall be preferred for the work contract.
13. Supplier shall obtain Medical Fitness certificates for all his workers involved in this work.
14. The required safety gears i.e. safety shoes, helmet, welding gears, soap & undergarments etc. shall be provided by the supplier to their employees engaged in this work
15. QAP (Quality Assurance Plan):-
Supplier shall submit a documented procedure for Quality Assurance Plan for fabrication of MS grids and SS chequered plate assembly as mentioned against this work.
QAP should include:-
 - (iii) Fabrication Steps,
 - (iv) In-process Inspection Stages,
 - (v) Final testing methods,
 - (vi) Welding procedures, Weld sequencing and Cleaning procedures,
16. Raw material Testing, (iii) Fabrication Steps, (iv) In-process Inspection Stages, (v) Final testing methods, (vi) Welding procedures, Weld sequencing and Cleaning procedures,
17. Welding requirements:-
 - i) Welding procedures and welder shall be qualified as per ASME section IX proper to production weld.
 - ii) All the welding if any on MS to MS shall be done by SMAW using E6018/E7018 welding electrodes.
 - iii) All weld joints shall be ground flushed and finished smooth.
18. Inspection and final acceptance:-
 - i) Physical verification of all items as per technical specifications.
 - ii) All weld surfaces shall have a smooth finish for easy decontamination.

C) Terms and Conditions:-

1. Supplier should **clearly and separately** mention the Basic Cost Of Supply, GST, work completion period etc. in the offer
2. Your Quotation/offer shall be valid for min. 90 days.
3. Supplier shall quote **lumpsum** for the entire work specified and not for each item individually.
4. Work completion period is **90 days** from the date of issue of the work order.
5. Any delay which is attributable to the contractor is liable for penalty @ ½ % per week (max. 10%) to be imposed on the contractor.
6. 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.
7. Income tax @2% and GST TDS @2% will be deducted from the Suppliers bill.
8. The materials, fabricated items used against this work order shall be utilized for R&D purpose. Therefore, GST exemption is applicable and eligible for GST @5% against exemption certificate.
9. Supplier should give guarantee for a minimum period of One Year for the workmanship.
10. Contractor must furnish their PAN no. & GST Registration Certificate.
11. 100% payment will be arranged after satisfactory completion of work at AFD and on submission of:
 - (a) Bills in triplicate, (b) Advanced stamped receipt, (c) Delivery Challan, (d) Guarantee Certificate
 - (e) Site Clearance Certificate, (f) GST Undertaking, (g) Work Completion certificate, (h) ITR undertaking
12. Min. two workers & a supervisor shall be present at site during the work. During execution, all safety measures such as safety shoes, hand gloves, headgear for welding, certified machines for electrical jobs etc. are to be followed. The supervisor shall be experienced enough for safety (fire & personal) to oversee the site activities.
13. The upkeep of area is the responsibility of contractor. Any unwanted or extra materials shall be kept at designated area shown by departmental supervisor. For elevated jobs proper Safety Belts shall be used by all workers.
14. Contractor shall obtain police verification certificate (PVC) for all his employees including his supervisors and workers engaged in the work.

15. **Site Visit:-** The contractor shall have to visit the site to comprehend the scope of work and equipment conditions. The same will be arranged by the undersigned. The site can be visited on 17/6/2022 between 10.00 hrs to 14.00 hrs. only. However, for site visit, prior intimation of at least three working days is necessary for arranging the entry permits.

The quotations submitted without site visit will NOT be considered.

Contractor shall have to carry valid Photo identity card (Driving licence, passport, adhaar 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. For preparing entry permit, you can contact the undersigned on ph. No. 25594869 or can mail to (pjpatil@barc.gov.in) giving complete details of firm, name of visitors, occupation/designation, identity proof, PVC details, probable date of visit etc.

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