

**Government of India  
Bhabha Atomic Research Centre  
Reactor Engineering Division**

Energy Engineering Section  
Engg. Hall-7  
Trombay, Mumbai-85

Ref: RED/AKS/OPA/2DS/MF/P-45739/2022

24<sup>th</sup> May 2022

**Sub:** Invitation to quote for two-part tender for “Fabrication for stiffening of existing structure of different components and equipment at Gamma Garden, BARC, Mumbai-85 as per Detailed technical specifications “Annexure-I”

Dear Sirs,

Sealed quotations are invited on behalf of the President of India by Head, Reactor Engineering Division for Execution of **“Fabrication for stiffening of existing structure of different components and equipment at Gamma Garden, BARC, Mumbai-85 as per Detailed technical specifications “Annexure-I”**. This work is to be executed at the purchaser’s premises (Gamma Garden, BARC, Mumbai-85).

**General Notes:**

- 1) The work will be carried out at the purchaser’s premises (Gamma Garden, BARC, Mumbai-85) and bidder shall provide all necessary infrastructures for carrying out the work.
- 2) Supplier shall arrange sufficient number of qualified/experienced manpower to carry out the assignment.
- 3) Quotations shall be submitted in two parts i.e. **“TECHNICAL” & “FINANCIAL”**. These quotations shall be put in two separate envelopes and sealed properly. These two envelopes shall be put in a main envelope and sealed properly.
- 4) **Type of quotation (Financial or technical) must be clearly mentioned on each envelope. Reference no. of this letter**, date and time of opening of bids also should be clearly mentioned on the all sealed envelopes containing the quotation. The reference no. of this letter, date and time of opening of bids must be clearly mentioned on the all sealed envelopes containing the quotation.
- 5) Quotations shall be provided on a company letterhead describing Name, address and contact details. All quotations must be complete with proper reference number, signed and stamped by the authorized representative of the bidder. Without this information the offer will be treated as invalid.
- 6) In **“TECHNICAL”** bid, supplier shall furnish the details of manpower, equipments, machinery, infrastructure and at least two similar nature of prior work carried out by him in last three years for assessment by the purchaser. **Copy of work order/completion certificates of at least two similar assignment carried out in the past three year shall be attached in technical part of bid. Without this information the offer will be rejected.**
- 7) The **“TECHNICAL”** quotation must clearly indicate compliance with the technical specification as per Annexure-I. **Offers that do not comply with the technical specification in all respects will be rejected.**

- 8) The "TECHNICAL" quotation must be given in the letter head of the bidder. All documents being submitted for "TECHNICAL" quotation shall be listed in this letter.
- 9) The quotations must reach to Alok Kumar, SO/F,RED, Engg. Hall-7, BARC, Mumbai-85 latest by 09/06/2022. Quotations will be opened on 10/06/2022.
- 10) The quotations have to be sent by speed post only. Hand delivered quotation will not be entertained.
- 11) The bidder may contact on telephone no.: Alok Kumar: 022-25597161 for inquiries related to MF.
- 12) "TECHNICAL" part of quotations will be opened first and "FINANCIAL" part of quotation will be opened only if the "TECHNICAL" bid is found to be acceptable as per terms and conditions of technical specifications.
- 13) Payment will be made as per government rules after the completion of the work to purchaser's satisfaction against submission of original bill in triplicate and advance stamped receipt.
- 14) Income tax @2% and GST as applicable will be deducted from the bill. Taxes if applicable shall be paid as per government rates.
- 15) Bidder shall mention their PAN and VAT/GST nos. in the quotation.
- 16) The offer shall be kept open for acceptance for a minimum period of 60 days from the date of opening of the quotation.
- 17) The bidder shall furnish the detailed information regarding whether an ex-employee of BARC is working in their organization or whether any of their relative is working in DAE/BARC or whether he/she is an ex-employee of DAE/BARC. In case of absence of such information, or wrong information the quotation or contract is likely to be rejected or cancelled.

**CONFIDENTIALITY CLAUSES:**

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-bidders, consultants, advisers or the employees engaged by the 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 bidder, sub-bidder, consultant, adviser or the employees of a bidder will invite penal consequences under the aforesaid legislation.

III. Prohibition against use of BARC's name without permission for publicity purposes: -

The bidder or sub-bidder, consultant, adviser or the employees engaged by the bidder 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.

Thanking you,

*Nirupam Das*  
23.05.2022

(Nirupam Das)  
Head,ITDS

RED,BARC, Mumbai-85

Enclosure: Annexure-I

## Annexure-I

### Scope of work and Technical Specification

**Item:** Fabrication for stiffening of existing structure of different components and equipment at Gamma Garden, BARC, Mumbai-85

#### **1. Scope of Work:**

Work involves material handling, purchase of material, cutting, edge preparation, grinding, drilling, welding, painting. Work will be carried out using structural materials like square hollow section, plates, pipes, etc to stiffen the existing structures. All the manpower and machinery to handle existing structure required for the work shall be arranged by the fabricator. All the material, material handling equipment and welding machines, consumables, welding consumables are in the scope of fabricator. Details of works are described in subsection 1.a to 1.e

**1.a- Material:** Details of materials and its sizes are given in table-1. Approximate total weight of square hollow section weight is 7.5 ton and plate weight is 0.98 ton. Actual work may vary  $\pm 10\%$  of estimated quantity. All materials required for the work shall be arranged by the supplier. No free issue material will be provided. All the materials required for fabrication shall strictly conform to the IS requirement as given in table-1. The material test certificates and manufacturer's test certificate in standard format shall be submitted along with the materials prior to actual fabrication work. All materials to be used for fabrication shall be new, free from rust, dents, bends, scratches and voids. Material shall be inspected and approved by the authorized representative of the purchaser. Fabrication work shall not start without approval of the authorized representative of the purchaser.

**1.b- Cutting, grinding and edge preparation:** Edges and surfaces of Plate, square hollow section, pipe angles, channels used for welding should be cleaned from dust and rust before welding. Edges and surfaces should be prepared so that full perimeter and

thickness weld over the whole perimeter can be made. Sharp edges and extra protrusion should be removed by cutting and grinding.

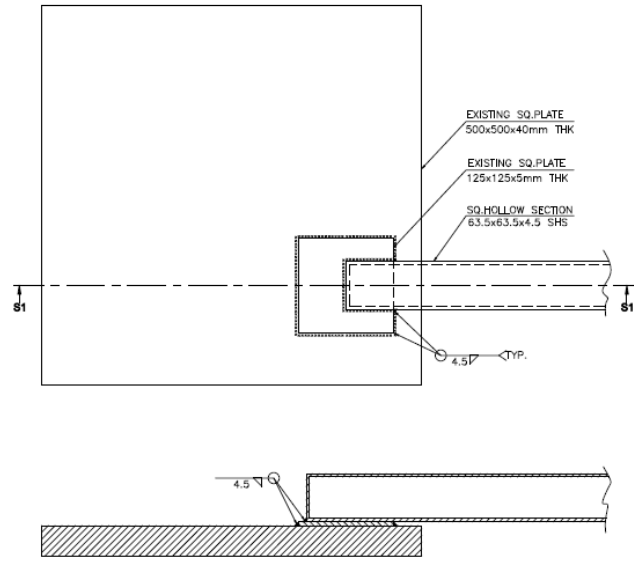
**1.c- Welding:** All welding will be carried out at site i.e. Gamma Garden, BARC. Welding type used in work consists of reinforcement of existing welding (2mm extra welding on existing 3mm weld), welding of gusset plate between pipe and plate, welding of pipe with plate, welding of square hollow section on existing structure with gusset. Figure-1.a to 1.c shows the schematic of weld location type discussed above. Welding are along full periphery of overlapping surface. Weld length and sizes of different weld types are given in table-2. All weld should be SMAW weld. Welder shall be qualified for the structural fabrication work to produce quality weld joints. Liquid penetration test and visual inspection of welds will be carried out by authorized representative of the purchaser. Fixture and material required for testing are in scope of fabricator. Fabricator has to comply safety measures while welding Fabricator has to ensure all his welders are properly trained. Fabricator has to submit three weld sample similar to each type of weld as shown in figure 1.a-1.c made by each welder before start of welding work. These samples will be tested for quality of weld (Liquid penetration test) and strength. Only after approval from indenter supplier has start welding work.

**1.d- Painting:** After welding welded structures should be painted with good quality of air dried corrosion resistant paint along with one coat of red oxide zinc chrome primer.

**1.e- Material Handling:** Stiffening and other fabrication job is to be done on existing 24 modular structure. Each modular structure has approximate weight of 5-ton, width and breadth 5m and height 5m. These existing modular structure need to be moved from its existing location to fabrication location. One modular structure will be stiffened at a time. All fabrication and stiffening has to be done at fabrication location. Fabricator has to use suitable material handling equipment for lifting and movement of existing modular structure. Material handling equipment used for job are in the scope of fabricator.

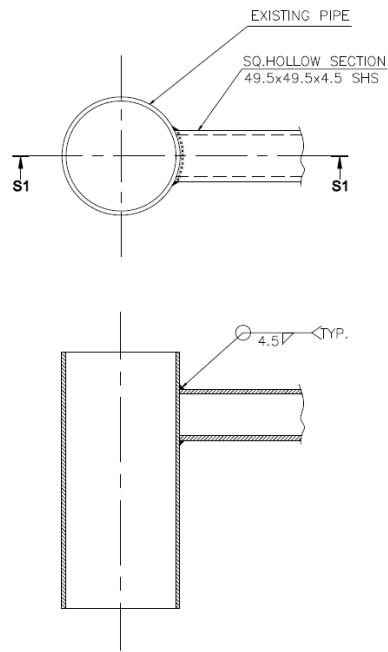
<b>Table-1</b>					
<b>Material pipe, square and hollow section</b>					
<b>Size</b>	<b>Material</b>	<b>Length (m)</b>	<b>Quantity</b>	<b>Total (length)</b>	<b>Total Approx. wt. (kg)</b>
Square hollow Section (63.5X63.5X4.5 SHS) Ref: weld drawing figure 1.a	Mild steel IS 4239 Yst310	5.1	8	40.8	325
		4.7	8	37.6	305
		4.5	8	36	295
		4.2	8	33.6	275
		3.8	8	30.4	245
		3.5	8	28	225
		3.4	8	27.2	225
		3.2	8	25.6	205
		3	8	24	195
		2.8	32	89.6	715
Square hollow Section (49.5X49.5X4.5 SHS) Ref: weld drawing figure 1-b	Mild steel IS 4239 Yst310	5.1	24	122.4	735
		4.7	24	112.8	675
		4.5	24	108	645
		4.2	24	100.8	605
		3.8	8	30.4	185
		3.5	8	28	175
		3.4	8	27.2	165
		3.2	8	25.6	155
		3	8	24	145
				2.8	24

Pipe OD 89.5 thickness 4.0 mm Ref: weld drawing figure 1-c	Mild steel IS 1239 YST310	5.2	6	31.2	277.5
Pipe OD 60.8 thickness 4.5 mm	Mild steel IS 1239 YST310	6	8	48	330
<b>Plate</b>					
	<b>Material</b>	<b>Plate Size</b>	<b>Quantity</b>	<b>Total Approx. wt. (kg)</b>	
Square Plate size 125mmX125mmX5mm thk	Mild steel IS 2062: E250 Grade A	125X125X 5mm thk	632	386	
Square Plate size 60mmX60mmX5mm thk	Mild steel IS 2062: E250 Grade A	60X60X 5mm thk	650	92	
Gusset plate Triangular 60X60X10mm thk Ref: weld drawing figure 1-c	Mild steel IS 2062: E250 Grade A	Triangular length 60mm Height 60mm 10mm thk	1800	500	



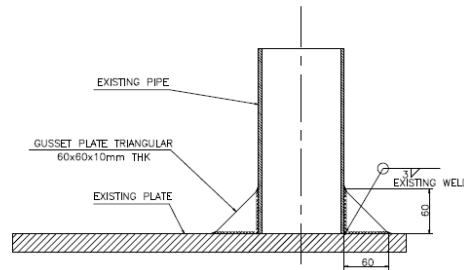
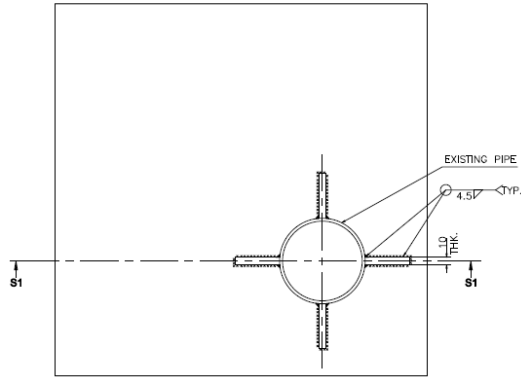
SECTION - S1 S1

Figure: 1.a



SECTION - S1 S1

Figure: 1.b



SECTION - S1 S1

Figure: 1.c

<b>Table-2</b>	
<b>Weld details</b>	
<b>Weld</b>	<b>Total Length</b>
<b>Fillet Weld 4.5mmX4.5mm</b>	<b>900m</b>
<b>2 mm weld reinforcement on existing weld</b>	<b>200m</b>

2. **Delivery Period:** 3 Months

3. **Free Issue Material:** Nil. No free issue material will be provided.

4. **Inspection and Testing:** Original Mill certificate or certificate from NABL approved laboratory for ten test coupon of material (identified by purchaser) taken from material lot has to be submitted by fabricator. Material should comply to IS standard mentioned in table-1. All



the structural materials offered for fabrication shall be new. Used and reconditioned materials will not be accepted. Materials shall be straight and free from bends and kinks. Dimensions of all the materials offered for supply shall be measured. Fabricated components will be subjected to dimensional check, surface/edge preparation before actual welding. Welding shall be uniform and free from defects such as undersized welds, undercut, overlap, surface porosity etc. Liquid penetration test of fifty welds randomly selected by Indenter will be carried out fabricator. All selected welds should pass liquid penetration test.

#### **5. Terms and Conditions:**

- (a) All the materials, material handling equipment, manpower, welding machines, welding consumables, tools and accessories required for the work is in the scope of fabricator.
- (b) Necessary safety precautions shall be taken by the fabricator at the site during the work and fabricator shall be fully responsible for any accident or damage caused by his personnel. No compensation will be paid by the purchaser in such case.
- (c) Fabricator must provide safety gears such as safety shoes, gloves, goggles, safety belts, helmets to their staff while carrying out the fabrication work at the site.
- (d) Appropriate material handling equipment's shall be employed during loading, unloading, fabrication of the structural work to ensure safety of the personnel.
- (e) Fabricator shall use proper railings, scaffoldings while working at higher elevations to ensure the safety.
- (f) Fabricator shall maintain the work area in orderly and neat manner.
- (g) The work shall be subject to review by the purchaser or his authorized representative. Work shall be conducted under their guidance and to the full extent of satisfaction of the purchaser.
- (h) Fabricator has to arrange all necessary documents like Police verification certificate, Address proof, Identity proof etc. for his manpower working inside BARC premises for security clearances and work permit of this indent.