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CFB, Trombay  
MUMBAI – 400 085

**GOVERNMENT OF INDIA  
BHABHA ATOMIC RESEARCH CENTRE  
Cryo-Technology Division**

Ref: BARC/CrTD/MF/TR/19-20/OPA/170176

Date: 09/09/2019

Tender Due Date: 1-10-2019

**Subject: Invitation to submit your quotation**

On behalf of the President of India, Head, Cryo-Technology Division, Bhabha Atomic Research Centre invites lowest quotation in sealed envelope for the work given below as per the technical specifications enclosed herewith.

S. No.	Description of Job	Completion Period
1	Fabrication of components of CNS Bayonet joint, vacuum port and spider assembly.	10 weeks from date of W.O.

**The terms and conditions are given below:**

**1. Qualifying criteria for bidders**

- 1.1 Firms willing to bid for above mentioned job shall have been vetted by Security Section of BARC.
- 1.2 All the supervisors and workers required to visit BARC premises, should have valid Police Verification Certificate (PVC). The list of manpower available with firm shall be submitted along with their details of PVC.
- 1.3 The past work experience certificate of the firm of similar nature in BARC/DAE shall be made available with Work Order copy and satisfactory completion certificate from the user. Also the list of ongoing jobs inside BARC premises with expected completion period shall be provided.
- 1.4 The firm having past experience in fabrication / machining work of cryogenic equipment & piping, only need to apply for this work.
- 1.5 Interested bidders shall contact the undersigned (Mr. Tejas Rane) on the mentioned telephone or email, with above given details for getting the Detailed drawings and / or Tender Specification.

**2. Detailed job description & scope of work: As per Annexures I.**

3. Facilities required at firm's site: Machining & fabrication facilities such as CNC machines, for machining of components of materials such as stainless steel, brass, fiberglass, etc. and for fabrication of cryogenic equipment & piping. Suitable testing facilities for testing of fabricated equipment.

4. The quotation envelope shall be superscripted with **Description of the job and the Tender Ref. No. and Due date**, along with Attn. to, Head, Cryo-technology Division as mentioned below.

Head, Cryo-Technology Division,  
278-H, CrTD Office, 2<sup>nd</sup> floor,  
Common Facility Building (CFB),  
Bhabha Atomic Research Centre,  
Trombay, Mumbai- 400 085

5. The complete quotation shall reach the above address on or before \_\_\_\_\_ by **Registered Post/ Speed post**. The quotations will be opened on the next working day at Cryo-Technology Division, BARC between 1400 to 1600 Hrs.
6. **There is no FIM:**
7. **Printed Letter Head:** Quotation should be printed on the letter head; Computer generated quotation is not valid.
8. **Validity of the Offer:** Validity of the offer shall be 90 days from date of opening of quotation.
9. **Guarantee:** Vendor shall have to give guarantee of the quality and workmanship of work done for the period of 12 months from the date of completion of the work.
10. **Offer of Firm:** Offer of those firms, who do not submit their quotation as per the details given in the technical specification and incomplete quotations in any respect will not be considered. Contractor shall quote lump sum price for the execution of the complete job in addition to itemized quote.
11. The department reserves the right to extend the date of opening the quotations. Head, Cryo-Technology Division, BARC reserves the right to accept or reject any or all the quotations without assigning any reason.
12. **Payment Terms:** Accounts Division BARC Mumbai-400085 shall make full and final payment only after submission of the satisfactory work completion certificate issued from the undersigned, bill, guarantee certificate, delivery challan, ECS and advanced stamped receipt. No advance is admissible.
13. **Income Tax Recovery Clause:** Income tax @ 2% will be deducted from the bill.
14. If any of the employee, consultant, or partner of the company is an Ex BARC employee, the same must be stated in the quotation clearly.
15. **Penalty:** Any delay which attributable to the contractor is liable for penalty @ 0.5 % per week (max 5 %) to be imposed on contractor.

**16. ST/VAT/PAN Number:** Quotation shall consist of GSTN number registered with local GST authority /CGST authority and PAN number of the firm.

**17. Quantity Variation Clause:** Quantity variation of  $\pm 10\%$  is possible during the execution of the job. Actual payment shall be made based on the actual work carried out by the contractor after completion of entire job. Minor variation in specifications may be possible subject to written approval from the purchaser.

**18. Safety & Security Rule:** The vendor shall follow all the safety procedures as per the normal industrial practice during the execution of the job at site. Any mishap occurring during the work due to unsafe workmanship shall be the vendor's liabilities. Security and transportation rules at BARC, Trombay premises shall be strictly followed.

**19. Confidential Clauses:**

**i. Confidentiality:** No party shall disclose any information to any third party concerning 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 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, advisors, 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 of the Official Secret Act, 1923:** Any contravention of the above mentioned provisions by any contractor, sub- contractor, consultant, advisor or the employee of a contractor will invite Penal consequences under the aforesaid legislation.

**iii. Prohibition against use of BARC's name without permission for any publicity Purpose.** The contractor or Sub contractor, consultant, advisor or the employees engaged by the contractor shall not be use any public purposes through any media like press, TV, or internet, without the prior written approval of BARC

  
9-9-2019

(Tejas Rane)  
Scientific Officer - E  
CrTD, BARC  
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(022-25591752)

# Technical Specifications for fabrication of components of CNS Bayonet joint, vacuum port and spider assembly

Annexure 1  
Rev. <0>

	Name	Signature
Originated by:	Tejas Rane	
Checked by:		
Approved by:		

Cryo-Technology Division  
Bhabha Atomic Research Centre,  
Trombay, Mumbai 400 085.

<September><2019>

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## 1. Introduction

Test setup of a Cold Neutron source facility has been planned at CFB, CrTD, BARC. A 20K, 1kW refrigerator at CrTD will be used to provide the necessary refrigeration at 20K in the CNS cryostat. The CNS transferline provides for flow of 20K helium connecting the refrigerator with the test cryostat. This document details the technical specifications for machined components which are a part of the CNS Bayonet joint.

## 2. Scope of supply

The scope of supply for the vendor includes the following—

- 1.1. Fabrication of CNS transferline components as per the details listed in table 3.1.
- 1.2. Materials required for fabrication and machining shall be in scope of the supplier.
- 1.3. Material composition tests for all materials used for fabrication.
- 1.4. Delivery of the fabricated components.

## 3. Applicable codes, documents and Standards

### 3.1.General

- In the event of incompleteness, error or contradictions in purchaser's documents, drawings, or models, the vendor shall notify the purchaser in writing to obtain directives.
- If the vendor deems it necessary to observe additional governing codes and regulations, the purchaser shall be notified in writing and written approval shall be taken.

### 3.2.List of Standards

- ASME Boiler and Pressure Vessel (BPV) Code-2015.
- ASME Y14.5M Dimensioning Tolerance Code.
- ASTM A380 Cleaning and De-scaling Stainless Steel Parts.

### 3.3.Applicable Drawings

List of components and the applicable drawings is given below (Table 3.1) and fabrication shall be strictly in accordance with these drawings and notes mentioned there in and elsewhere in the tender document.

Table 3.1 List of components and applicable Drawings.

Sr. No.	Component	Drawing Title	Drawing Number	Quantity
1	Cryogenic Bayonet male sealing part	Cryogenic Bayonet male sealing part	BARC/CrTD/CRYO-BAY-4K-1F-DN60/M-SEAL	10
2	Cryogenic Bayonet Female sealing part	Cryogenic Bayonet Female sealing part	BARC/CrTD/CRYO-BAY-4K-1F-DN60/F-SEAL	10
3	Coupling Adapter Male bayonet	Bayonet joint vacuum coupling parts	BARC/CrTD/CRYO-BAY-4K-1F-DN60/COUP1	10

4	Vacuum coupling Nut	Vacuum coupling parts 2	BARC/CrTD/CRYO-BAY-4K-1F-DN60/COUP2	10
5	Male bayonet flange for CNS bayonet	Vacuum coupling parts 2	BARC/CrTD/CRYO-BAY-4K-1F-DN60/COUP2	10
6	BASE PLATE FOR CHEVRON SEAL ASSEMBLY	BASE PLATE FOR CHEVRON SEAL ASSEMBLY	BARC/CrTD/CRYO-BAY-4K-1F-DN60/CHEV-BASE	10
7	CHEVRON SEAL HOUSING	CHEVRON SEAL HOUSING	BARC/CrTD/CRYO-BAY-4K-1F-DN60/CHEV-HOUS	10
8	FEMALE BAYONET FLANGE	FEMALE BAYONET FLANGE	BARC/CrTD/CRYO-BAY-4K-1F-DN60/FEMALE-FLANGE	10
9	Vacuum port body - 12	VACUUM PORT BODY - 12	BARC/CrTD/EVAC25-PUMPOUT-ASM/PUMPOUT-OP/TEE	5
10	VACUUM PORT BODY - 11	VACUUM PORT BODY - 11	BARC/CrTD/EVAC25-PUMPOUT-ASM/PUMPOUT-OP/CONE	5
11	Rod	VACUUM PORT ROD AND KNOB - 15	BARC/CrTD/EVAC25-PUMPOUT-ASM/PUMPOUT-OP/ROD	5
12	Knob	VACUUM PORT ROD AND KNOB - 15	BARC/CrTD/EVAC25-PUMPOUT-ASM/PUMPOUT-OP/ROD	5
13	Nut	VACUUM PORT NUT AND NUT RING - 16	BARC/CrTD/EVAC25-PUMPOUT-ASM/PUMPOUT-OP/ROD-SEAL	5
14	Nut Ring	VACUUM PORT NUT AND NUT RING - 16	BARC/CrTD/EVAC25-PUMPOUT-ASM/PUMPOUT-OP/ROD-SEAL	5
15	VACUUM PORT BLOCK - 14	VACUUM PORT BLOCK - 14	BARC/CrTD/EVAC25-PUMPOUT-ASM/VAC-PORT/BLOCK	15
16	VACUUM PORT CYLINDER - 13	VACUUM PORT CYLINDER - 13	BARC/CrTD/EVAC25-PUMPOUT-ASM/VAC-PORT/FEMALE	15
17	Spider plate	SPIDER ASSEMBLY	BARC/CrTD/CRYO-TL-18600D80/SPIDERS	60
18	Stopper strip	SPIDER ASSEMBLY	BARC/CrTD/CRYO-TL-18600D80/SPIDERS	120

#### 4. Materials

- All materials and process of manufacture shall be of high quality and in accordance with good practice pertinent to the manufacture of Stainless Steel and Brass components. Supply of all materials and consumables required for fabrication shall be in scope of the vendor. All materials and components used shall be new and suitable for the use for which they are intended.
- Material test reports/certificates for chemical composition of the source material shall be provided by the vendor. All materials shall conform to ASME code.

## 5. Important Notes

- The Supplier shall have adequate experience in fabrication of cryogenic equipment.
- Minor changes in drawings / specifications may be possible without significantly affecting the scope of work. However any deviations in specifications if required shall be carried out only after approval from Purchaser.
- Party shall have to get the security clearance / Police verification for the manpower / Persons which will be deployed for the execution of the job. Details of GST no. / PAN No. / Registration etc. are to be provided by the party.

## 6. Preservation, Packaging and Delivery.

### 6.1.Preservation

- All the equipment shall be protected for the entire period of storage and dispatch against damage due to atmospheric factors and rough handling in transit.
- The equipment shall be preserved in their finished form, retaining their surface finish and dimensions.

### 6.2.Packaging

- Sound packaging of suitable material conforming to the size and weight of the contents shall be used.

### 6.3.Delivery

- It is the responsibility of the manufacturer to arrange for the delivery of the equipment at the purchaser's stores at B.A.R.C Mumbai.
- The equipment shall not be dispatched without prior consent of the purchaser. The consignee as well as person concerned at the place of delivery shall be intimated at least 10 days in advance about the dispatch of the equipment.
- The delivery period shall be 10 weeks from date of receipt of Work order.
- Any delay which is attributed to the contractor is liable for penalty @ 1/2% per week (max.5%) to be imposed on the contractor. However, in case any extension in delivery is to be granted to contractor, party's request for extension may be called for before expiry of work Order. The same may be justified by the Division, whether extension granted is with or without levy of liquidated damages.

## 7. Payment

### 7.1.Terms of payment

- No advance payment shall be made.
- Full payments shall be made only after completion of the job.
- Payment shall be made through ECS, by Accounts Officer, BARC. The fabricator shall have to submit in advance duly signed and stamped receipt along with the bills, for the immediate payment.



## 7.2. Confidentiality

- Party shall not disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as “Property” 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 consent of the original disclosing party.
- This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by the 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 vendor, sub-contractor, consultant, adviser or the employees of a vendor will invite penal consequences under the aforesaid legislation.