

INSTITUTE FOR PLASMA RESEARCH

An Aided institute of department of Atomic Energy, Govt. of India)
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MINOR FABRICATION WORKS ENQUIRY

Office Copy

ENQUIRY NO :IPR/MFW/22-23/153

Date : 03-10-2022

Due Date : 23-11-2022 13:00 IST

Please send your offer in sealed envelope specifying Inquiry No, Date & Due Date, ALONG WITH your credentials for the following items:

Important Note:

Please note that e-mail quotations are not acceptable however you may send your queries (if any) to surya@ipr.res.in

Please Ensure that your sealed quotation reaches this office not later than above mentioned due date and time.

Kindly go through the following document properly before Quoting which are available on the IPR web portal i.e., <http://www.ipr.res.in/documents/tenders.html/> attached here with.

1. Technical specification as enclosed.
2. Instruction to the bidders & terms and Condition (refer Form NO:IPR-MFW-01-V1)
3. Bidding format(refer Biddingformat MFW-Bid.pdf)

GST fro Goods and Services (IGST/CGST/SGST TAX BENEFITS): PLEASE REFER clause no:8 of Form No:IPR-MFW-01-V1

QUOTATION SHOULD BE ADDRESSED TO **SURYAKUMAR PATHAK** ONLY.

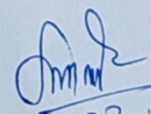
Sr.No.	Description	Quantity	Rate
1	Design and Fabrication of Support Structure Assembly for SXR Plasma Diagnostics	1	No.

Free Issue Material

Sr.No.	Description	Quantity	Unit	Value
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Note : Please quote with complete technical details (Technical Compliance sheet and product data sheet)

Encl:As per attachment


02.11.22

Sd/-
SURYAKUMAR PATHAK
Scientific Officer-G

Design and Fabrication of Support Structure Assembly for SXR Plasma Diagnostics

A Soft X-Ray (SXR) Diagnostics based on absorber-foil method is being developed for Aditya-U Tokamak. It will be mounted on a central port of the tokamak and hence vacuum level inside the assembly must be $< 1 \times 10^{-8}$ torr. The system consists of the three main components: a pair of Surface Barrier Detectors (SBDs), filters mounting assembly and a pin-hole flange. The filter mounting assembly must have provision for the selection of different filter-thickness combinations, without breaking system vacuum. In addition to that, the alignment of all components must be such that the field of view (FOV) of detectors is not obstructed. Conceptual design drawing is attached with the tender document and provides dimensions required for generating fabrication drawings. The main objective of the diagnostics is to investigate the energy range of Soft X-rays emitted from the core of tokamak plasma.

I. Scope of Work:

- a. Design, fabrication, testing and supply of support structure assembly for a Soft X-ray (SXR) plasma diagnostics which is based on absorber foil method.
- b. In filters mounting assembly, there must be provision for the selection of any of three filter pairs by UHV compatible feed through.
- c. In conceptual design drawings, mounting arrangement for filters is on a rotatable flange for filter-pair selection. Vendor can either opt for rotatable mechanism or propose his own design for the filter-pair selection. In both the cases, the deviation in positioning/alignment of a given filter pair must be $\leq 0.5\text{mm}$ for both forward as well as backward movement.
- d. If replacement of any of the components is carried out for maintenance, then deviation in the placement/alignment of each component must be $\leq 0.5\text{mm}$.
- e. The complete system will be tested for Ultra High Vacuum (UHV) level of $< 1 \times 10^{-8}$ torr at vendor's site.
- f. The vendor must provide Allen bolts, nuts and washers for the fabrication job.
- g. Packing and transport to IPR is in the Vendor's scope.
- h. The fabrication drawings of complete system are to be submitted along with the quotation.
- i. The system design proposed by the vendor must be such that there is easy access for operation and maintenance of all components which includes a pair of Surface Barrier Detectors (SBDs), filters mounting assembly and a pin-hole flange.

II. Drawings:

- a. The conceptual design drawings of the job work is attached with the tender document.
- b. The vendor must submit the fabrication drawings along with the quotation.

III. Material:

- a. The vendor must use non-magnetic materials, either SS304L or SS316L, for the fabrication of all parts (refer drawing). If any other material is to be proposed, then it must be a non-magnetic material. Vendor must specify material name against each component in fabrication drawings.
- b. The vendor shall procure all the raw material required for completing the job.
- c. The vendor has to submit the raw material test certificate at IPR for the approval before starting fabrication.

IV. Acceptance Tests at Vendor Site:

- a. Testing of complete system for Ultra High Vacuum (UHV) level of $< 1 \times 10^{-8}$ torr.

- b. Alignment of soft X-Ray detectors, filter flange and pin-hole flange will be checked using a light source at vendor's site. The placement and fixing of components must be such that the field of view (FOV) of detectors (shown in cyan colour) is not obstructed.
- c. The adjustment of filters' assembly and placement of components will be checked for deviation ≤ 0.5 mm.
- d. Helium leak testing of all components has to be carried out at vendor's site before dispatch.

V. Acceptance Tests at IPR:

- a. Testing of complete system for vacuum level of $< 1 \times 10^{-8}$ torr.
- b. Alignment of SXR components will be checked at IPR as mentioned in point (IV. b).
- c. The adjustment and placement of all component will be checked as mentioned in point (IV.C).

VI. Instructions to Vendor:

- a. The vendor should sign all pages of the tender in token of acceptance of the terms and conditions and return the same to us.
- b. The vendor has to submit their response in the technical compliance form attached with the tender document.
- c. The vendor should fully understand scope of work, conceptual drawings and requirements in consultation with IPR representative.
- d. The vendor must submit the fabrication drawings along with the quotation. The quote submitted without fabrication drawing shall not be included in comparison of bid prices.
- e. If the vendor's response, which includes technical compliance and fabrication drawings, will be found technically acceptable then only it will be included in comparison of bid prices.
- f. Any damage of the component and test material during trial will have to be replaced by vendor.

VII. Terms and Conditions:

- a. The fabrication job is to be delivered within 2 months from the date of IPR purchase order (Early completion is preferred).
- b. The vendor can visit IPR for discussing the conceptual drawings and application.

VIII. List of Documents to be submitted:

S.N.	Documents Required	Submission Time Line	Vendor's Action
1.	Fabrication Drawings	Along with the quotation	to be submitted to IPR with quotation
2.	Material test certificates	After material receipt and finalizing material type	to be submitted to IPR for approval before starting fabrication

IX. Warranty: One year warranty after acceptance.

Handwritten signature and date:
03.10.22

Technical Compliance

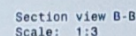
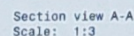
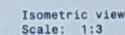
Fabrication of Support Structure Assembly for Soft X-Ray (SXR) Diagnostics

Sr. No.	Description	IPR Specifications	Vendor's Response
1.	Scope of Work	As per sr. I of technical specification	
2.	Drawings	As per sr. II of technical specification	
3.	Material	As per sr. III of technical specification	
4.	Acceptance Tests at Vendor Site	As per sr. IV of technical specification	
5.	Acceptance Tests at IPR	As per sr. V of technical specification	
6.	Instructions to Vendor	As per sr. VI of technical specification	
7.	Terms and Conditions	As per sr. VII of technical specification	
8.	List of Documents to be Submitted	As per sr. VIII of technical specification	
9.	Warranty	One year Warranty	

Note: Vendors must specify their response in column 3 (Vendor's response)

Handwritten signature and date:
03.10.21

Bidder's Signature with official stamp



1) FILTER ROTATION GEAR ARRANGEMENT IS CONCEPTUAL DESIGN.
VENDOR CAN PROPOSE ALTERNATIVE INNOVATIVE IDEAS FOR THE SAME.

2) PART NO 3 SHOULD BE IN TWO PARTS IN ORDER TO MAINTAIN THE FILTER MOUNTING ASSEMBLY. PLEASE INCORPORATE THIS CHANGE IN FABRICATION DRAWING.

20	20	NUT BOLTS AS REQUIRED	STANDARD PART			
19	19	FILTER FLANGE SHAFT	01	SS 316L		
18	18	35 CF PIN HOLE FLANGE	01	SS 316L		
17	17	100 CF FLANGE SOFT XRAY	01	SS 316L		
16	16	PIPE DN40	01	SS 316L		
15	15	100 CF-250 CF FLANGE	01	SS 316L		
14	14	SHAFT SUPPORT	01	SS 316L		
13	13	GUIDE ROD-2	01	SS 316L		
12	12	35 CF FLANGE FOR PORT	01	SS 316L		
11	11	DN 25 PIPE	01	SS 316L		
10	10	SHAFT_COUPLING_FLEXIBLE_COUPLER	01	SS 316L		
9	9	WORM SOFT XRAY SYSTEM	01	SS 316L		
8	8	FILTER FLANGE	01	SS 316L		
7	7	35 CF FLANGE SOFT-XRAY	02	SS 316L		
6	6	100 CF-35CF FITTING FLANGE	01	SS 316L		
5	5	PIPE3 DN100	01	SS 316L		
4	4	100CF BLANK DETECTOR FLANGE	01	SS 316L		
3	3	250 CF CUSTOM FLANGE-1	01	SS 316L		
2	2	PIPE2 DN200	01	SS 316L		
1	1	250CF BLANK DETECTOR FLANGE	01	SS 316L		
SR.	PART NO.	DESCRIPTION	QTY.	MAT.		REMARK

[illegible]



Form No: IPR-MFW-01.V2

INSTRUCTIONS TO BIDDERS AND TERMS AND CONDITIONS

1. The Quotation and any order resulting from this enquiry shall be governed by our Conditions of Work Order and Contractor quoting this enquiry shall be deemed to have read and understood the same completely.
2. Where counter terms and conditions have been offered by the Tenderer, the same shall not be deemed to have been accepted by IPR unless our specific written acceptance thereof is obtained.
3. **Quotation:** Quotation should be submitted in the prescribed QUOTATION FORMAT attached with this Enquiry and the same should be submitted in a sealed envelope super-scribing the same with our enquiry No., date, due date and brief description of item on or before the due date. Late/delayed/incomplete/unsigned quotations will not be considered. Envelopes received without Enquiry number, date, due date and brief description of item may be rejected. The quoted prices should be firm for a period of 90 days from due date for placing order. IPR is not bound to accept lowest rate/s. IPR reserves the right to place on one or more parties. The scope of supply includes insurance by the Contractor.
4. **Specifications:** Goods should be offered strictly confirming to our specifications/drawings. Deviation, if any, should be clearly indicated by the contractor in their quotation. The Tenderer should also indicate the Make/Type number of the goods offered and catalogues, technical literature and samples, wherever necessary should accompany the quotation. Clarification/s on drawings should be obtained before submitting quotation.
5. **Terms of Prices:** Quotation should be submitted on door delivery basis without extra charge wherever possible. For quotations on Ex-Works, Ex-godown basis the approximate packing and forwarding charges should be indicated by the contractor. In the case of local contractors, the goods are to be delivered at our stores free of charge.
- 5.1 In respect of tenders on Ex-works basis, in case the tenderer has not mentioned in the offer packing, forwarding and transportation charges for safe delivery up to Purchaser's site, 2% of the price quoted towards packing (in respect of both local and outstation firms), 1% of the basic price quoted towards safe delivery charges in respect of local tenderer and 3% of the basic price quoted towards safe delivery charges in respect of outstation firm will be added for comparison of offers on safe door delivery at Purchaser's site.
- 5.2 Prices are required to be quoted according to the units indicated in the tender form/Enquiry. When Quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
6. Tender should be free from Correction and Erasures. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Unsigned quotations will summarily be rejected. If there is a discrepancy between the unit price and total price, unit price shall prevail.
7. IPR shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rate quoted.
8. **Goods & Services Tax (GST):** The details of Taxes/GST and other levies legally applicable and intended to be claimed should be clearly indicated in the tender. Where this is not done, no claim on these accounts would be admissible later.
 - a) **GST for Goods (IGST/CGST/SGST TAX BENEFITS):**
As applicable : Specify the HSN codes while quoting.
 - b) **GST for Services:**
As applicable. Specify the SAC codes wherever services are involved.
9. **Delivery Date:** Delivery period is essence of the Contract. Contractor must indicate the firm delivery date by which the goods will be dispatched or delivered by them from the date of our order. Delivery period shall be clearly indicated against each item separately.
10. **Price/ Purchase Preference:** Purchase/Price preference to industries will be given as per the policy of the Government of India in force at the time of evaluation provided their offer is in compliance with the conditions of the policy.



11. **Liquidated Damages:** The successful Vendor/Bidder should pay liquidated damages @ ½% (half percent) of the total work order value for the delay of each week in the scheduled date of completion of the work envisaged in the Work Order subject to a maximum of 5% (Five percent) of the total Work Order value.
12. **Inspection:** Goods on its arrival at IPR will be inspected by Stores, and his decision in the matter will be final. However, where the items are required to be inspected at the Contractors Premises, Contractor has to give advance notice regarding readiness of the Goods to enable us to depute our representative for inspection.
13. **Payment:** Payment will be arranged for accepted goods only within 30 days from the date of receipt of goods at IPR and bills in our accounts section, completed in all respects.
14. No correspondence will be entertained within 30 days from the date of receipt of good and bills, whichever is later.
15. **Guarantee:** The Stores offered should be guaranteed for a minimum period of twelve months, from that date of acceptance, against defective Goods, design, workmanship, operation or manufacture. For defects noticed and communicated during the Guarantee period, replacement/rectification should be arranged free of cost within a reasonable period of such notifications. In case where our specifications call for a guarantee period more than 12 months specifically, then such a period shall apply.
16. **Performance Bank Guarantee:** If demanded by IPR, the successful bidder will have to furnish Performance Bank Guarantee for 10% of the order value (basic price) from a Nationalized/Scheduled Bank/State Bank of India, valid throughout the Guarantee/Warranty period. The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. Bank Guarantees submitted other than from banks approved by IPR will not be accepted.
17. **Security Deposit:** If demanded the successful Bidder will have to furnish to the Purchaser an interest free security deposit for 10% (Ten percent) of the order value in the form of Bank Guarantee of an equivalent amount from a nationalized/ scheduled Bank/State Bank of India within 15 days from the date of work order and the said Guarantee should be valid till the goods are accepted by IPR. The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. Bank Guarantees submitted other than from banks approved by IPR will not be accepted. The Security deposit shall be forfeited in case the selected Bidder does not start the work within the time limit specified or fail to complete the work within the stipulated delivery period or fail to comply with any of the terms and conditions in the work order. On successful completion of scope of work and its acceptance by IPR, Contractor should send a letter requesting return of the original BG.
18. The Contractor shall at all times indemnify the purchase against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade Mark and shall take all risk of accidents or damage, which may cause failure of supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfilment of the contract.
19. **Free Issue Material (FIM):** Successful tenderer will have to arrange insurance showing beneficiary as "Institute for Plasma Research" at their risk and cost towards adequate security for the materials/property provided/issued by the Purchaser as Free Issue Material for the due execution of the contract.
20. The Director, IPR reserves the right to accept or reject any quotations fully or partly or to cancel the enquiry without assigning any reason.
21. **Jurisdiction:** The contract shall be governed by the Laws of India for the time being in force. The Courts of Gandhinagar only shall have jurisdiction to deal with and decide any legal or dispute arising out of this Contract.

(This need to be printed in Bidders letter head)

1. Please quote with complete technical details along with technical compliance sheet.
2. Quotation should be submitted in the format given below, else IPR shall not consider the offer by the vendor.

NAME OF PARTY : _____

ENQUIRY NO: _____

QUOTATION No. & DATE : _____

Currency of Quotation: **Indian Rupees**

Sr. No.	Item Description	HSN/SAC Code	Quantity	Unit Rate (Basic)	Packaging & forwarding (P&F)	Applicable GST	Rate (incl P&F and GST)	Total Value
			a	b	c	d	e = b + c + d	f = a * e
1								
2								
3								
4								
5								
6								

Sr. No.	Particular	Remarks
I.	Ex-works / FOR Destination	
II.	Freight	
III.	Insurance	
IV.	Delivery Period	
V.	Payment (IPR terms will apply)	
VI.	Guarantee / Warrantee	
VII.	Validity Period	
VIII.	Discount (if any)	
IX.	Remarks	

Place: Authority Signatory

Date: Company Seal

Note:

1. Bidder should submit the copy of GSTIN / ARN Certificate along with the offer
2. Bidder should specify the SUPPLY and SERVICE rates/ charges separately wherever applicable